Kentucky Energy and Environment Cabinet
Department for Environmental Protection
Division of Waste Management

HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT

PMC Organometallix Inc.

2314 Highland Avenue, Carrollton, Kentucky 41008

The Division of Waste Management hereby grants the above-named facility a Permit to engage in activity specified below. This Permit has been issued under the provision of KRS Chapter 224 and regulations promulgated pursuant thereto and are subject to all Permit Conditions and operating limitations contained herein. Issuance of this Permit does not relieve the Permittee from the responsibility of obtaining any other Permits, licenses, or approvals required by this Cabinet and/or other federal, state, and local agencies.

No deviation from the plans and specifications submitted with your Application or the Permit Conditions specified herein is allowed, unless authorized in writing from the Division of Waste Management. Violation of the terms and Permit Conditions specified herein shall render this Permit null and void. All rights of inspection by representatives of the Division of Waste Management are reserved. Conformance with all applicable Waste Management Regulations is the responsibility of the Permittee. Receipt of the Permit fee and financial assurance specified below is hereby acknowledged.

Permit Type:	Operating	**EPA I.D. Number:**	KYD-006-373-922
Hazardous Waste Management Units:	Treatment and Storage	**Agency Interest:**	690
Closure Cost Estimate:	$ 2,979, 296	**County:**	Carroll
Post-Closure Amount:	$ N/A		
Corrective Action Amount:	$498,317	**Permit Fee:**	$ 39,039.00
Sudden Liability Insurance:	$ 1,000,000 per occurrence/ $ 2,000,000 annual aggregate	**Effective Date:**	Month Day Year
Non-Sudden Liability Insurance:	$ NA	**Expiration Date:**	Month Day Year
Facility Location (UTM Zone 16)	4293.5 km north	661.3 km east	

Tammi Hudson, Director

Division of Waste Management
Issued on Month Day Year

Kentucky Energy and Environment Cabinet
Department for Environmental Protection
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This Permit has been modified, altered, reviewed, and/or changed as indicated in the table below – Summary of Permitting Actions.

SUMMARY OF PERMITTING ACTIONS					
Action Number[1.]	**Type of Actions[2.]**	**Public Notice Date[3.]**	**Issuance Date[4.]**	**Effective Date[5.]**	**Comments[6]**
	Renewal				Renewal of storage and treatment permit.

[1.] Action number is the same as Permit Modification number.
[2.] Type of Permit Modification issued by the Cabinet.
The different types of Permit Modifications are: Class 1, Class 2 and Class 3.
[3.] Not all Permit Modification is required by **40 CFR Part 124 - Subpart A** to be public noticed.
[4.] Date issued is not required to be the same as the effective date of the modification.
[5.] The effective date of a modification depends on the type of the modification class.
[6.] Brief description of the Permit Modification.

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PART I LEGAL AUTHORITY

PART I
LEGAL AUTHORITY

The terms and conditions of this Permit are applicable to PMC Organometallix Inc. under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs) as effective December 7, 2017.

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

Pursuant to the Environmental Protection Law, as amended [**KRS Chapter 224**] and attendant regulations promulgated thereunder by the Kentucky Energy and Environment Cabinet, in the Kentucky Administrative Regulations (KARs) Title 401, this Permit is issued to PMC Organometallix**,** hereinafter referred to as the "Permittee", located at 2316 Highland Avenue, Carrollton, Kentucky.

The Permittee must comply with all terms and conditions of this Permit. This Permit consists of the Permit Conditions set forth in:

- **Part I:** Legal Authority;
- **Part II:** Standard Permit Conditions;
- **Part III:** Specific Permit Conditions;
- **Part IV:** Corrective Action;
- **Part V:** Waste Minimization;
- **Part VI:** Land Disposal Restrictions;
- **Part VII:** Organic Air Emissions Standards;
- **Part VIII:** Referenced Attachments and Appendices; and
- The applicable waste management regulations.

Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KAR) may have exceptions to the equivalent Code of Federal Regulations (CFR). In the instance of inconsistent language or discrepancies between **401 KAR Chapter 39** and its equivalent CFR, **401 KAR Chapter 39** shall take precedence. Applicable regulations are those which are in effect on the date of issuance and also upon modification, revocation or reissuance of this Permit. [**40 CFR Part 270.32**]

The Permit Application (Part A and Part B Permit Application) as submitted to the Division of Waste Management on August 7, 2020 and last updated on December 14, 2020 (the only modification to the August 7, 2020 submission), is hereby incorporated into this Permit as Attachments. (See *Table I.1*)

This Permit is based on the assumption that the information in the Permit Application is accurate and that the facility will be constructed, maintained, equipped and operated as specified in the Permit Application and this Permit. In the instance of inconsistent language or discrepancies between the above, the language of the more stringent provision shall govern. Any inaccuracies found in this information could lead to the termination or modification of this Permit and potential enforcement action (**40 CFR Part 270.43** and **401 KAR 40:040 Section 1**: Modification,

Suspension and Revocation of a Permit (effective 12/2/83)). The Permittee shall inform the Cabinet of any deviation from, or changes in the information in the Application, which would affect the Permittee's ability to comply with the applicable regulations or Permit Conditions. [**40 CFR Part 270.30**]

This Permit is effective DATE (TBD) and shall remain in effect until the specified expiration date DATE (TBD), unless revoked and reissued, or terminated (see **40 CFR Part 270.41**, **40 CFR Part 270.43**, **40 CFR Part 124.5(a)** and **401 KAR 40:040 Section 1**: Penalties).

This Permit or a copy thereof shall be kept at the work site of the Permitted activity. In the event that there is no building or reasonable repository for such a copy at the work site, then the Permit or a copy thereof shall be kept at an alternate location agreed to by the Division.

TABLE I.1
CROSS REFERENCE OF PERMIT ATTACHMENTS

Permit Attachment[1.]	Permittee's Permit Application[2.]
Attachment A Part A Permit Application	Section A – Part A
Attachment B Facility Description	Section B – Facility Description
Attachment C Waste Analysis Plan	Section C – Waste Analysis Plan
Attachment D Process Information	Section D – Process Information
Attachment E Groundwater Monitoring & Corrective Action	Section E – Groundwater Monitoring and Corrective Action for Solid Waste Management Units and Areas of Concern
Attachment F Procedures to Prevent Hazards	Section F – Procedures to Prevent Hazards
Attachment G Contingency Plan	Section G – Contingency Plan
Attachment H Personnel Training	Section H – Personnel Training
Attachment I Closure Plans, Post-Closure Plans & Financial Requirements	Section I – Closure Plans, Post-Closure Pans, and Financial Requirements
Attachment J Other Federal Laws	Section J – Other Federal laws
Attachment K Waste Minimization Plan	Section K – Waste Minimization
Attachment L Signature Certification	Section L – Signatures

TABLE I.1 CROSS REFERENCE OF PERMIT ATTACHMENTS	
Permit Attachment[1.]	**Permittee's Permit Application[2.]**
Attachment M Organic Air Emission Standards	Section AA BB CC Air Emission Requirements
[1] Selected sections, parts, and/or attachments submitted as part of the Permittee's Permit Application have been incorporated into the Permit as attachments. However, this does not indicate that the Permit Application may be used as a substitute for the attachments prepared by the Division. [2] Part A and Part B Permit Application are prepared and submitted by Laura Robinson, HES Manager, PMC Organometallix to the Division on August 7, 2020 and determined complete on December 14, 2020.	

TABLE I.2 CROSS REFERENCE OF CFRs AS ESTABLISHED IN 401 KAR CHAPTER 39		
State Regulation	**Federal Regulation**	**State Regulation Section Description**
39:060 Sec. 2	40 CFR Part 260	Hazardous Waste Management Systems
39:060 Sec. 3	40 CFR Part 261	Identification and Listing of Hazardous Wastes
39:060 Sec. 4	40 CFR Part 268	Land Disposal Restrictions
39:060 Sec. 5	40 CFR Part 124 and 270	Hazardous Waste Permit Program and Procedures
39:080 Sec. 1	40 CFR Part 262	Standards for Generators of Hazardous Waste
39:080 Sec. 2	40 CFR Part 263	Standards for Transporters of Hazardous Waste
39:080 Sec. 3	40 CFR Part 273	Standards for Universal Waste
39:080 Sec. 4	40 CFR Part 279	Standards for Used Oil
39:090 Sec. 1	40 CFR Part 264	Standards for Owners or Operators for Treatment, Storage, and Disposal Facilities
39:090 Sec. 2	40 CFR Part 265	Standards for Owners or Operators for Interim Status Treatment, Storage, and Disposal Facilities
39:090 Sec. 3	40 CFR Part 266	Standards for Specific Types of Hazardous Waste Facilities
39:090 Sec. 4	40 CFR Part 267	Standardized Permits
39:090 Sec. 5	40 CFR Part 264	Flood Plains
All KARs cited in this Permit are effective as 12/7/2017, and governed by CFRs unless specified otherwise.		

END OF PERMIT CONDITIONS

PART II STANDARD PERMIT CONDITIONS

PART II
STANDARD PERMIT CONDITIONS

The terms and conditions of this Permit are applicable to PMC Organometallix Inc. under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs) .

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

II.A EFFECT OF PERMIT

Compliance with the terms of this Permit constitutes compliance for purposes of enforcement with **KRS Chapter 224.46-520**.

This Permit is issued pursuant to **KRS 224.46**.

Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA of 1976; Sections 106(a), 104, or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA); the equivalent state statutes, or any other law governing protection of public health or the environment for any imminent and substantial endangerment to human health, welfare or the environment. [**40 CFR Part 270.4**]

II.B PERMIT ACTIONS

II.B.1 Permit Modification, Revocation and Reissuance, and Termination

This Permit may be modified, revoked and reissued, or terminated for cause as specified in **40 CFR Part 270.40** through **270.43**, **40 CFR Part 124.5(a)**, **401 KAR 40:040 Section 1**: Modification, Suspension and Revocation of a Permit , **40 CFR Part 270.30**, and **40 CFR Part 270.10**.

The filing of a request for a Permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated non-compliance on the part of the Permittee does not stay the applicability or enforceability of any Permit Conditions [**40 CFR Part 270.30**]. If at any time for any of the reasons specified in **40 CFR Part 270.41**, the Cabinet determines that modification of this Permit is necessary, the Cabinet may initiate a modification according to **40 CFR Part 124 - Subpart A** or require the Permittee to request a Permit Modification as outlined in **40 CFR Part 270.42**. Modification, revocation and reissuance, or termination will be conducted in accordance with the provisions of **401 KAR 39:060 Section 6.**

II.B.2 Permit Renewal

II.B.2.1 This Permit may be renewed as specified in *Permit Condition II.E.2*. Review of any Application for a Permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations. [**40 CFR Part 270.4**,**40 CFR Part 270.30, and 401 KAR 39:060 Section 5**]

II.B.2.2 The Permittee shall submit three (3) hard copies and one (1) electronic copy plus a cover letter accompanying the Application and fee payable to the Kentucky State Treasurer to the Division by hand delivery or verifiable delivery at the following address:

ATTN: Hazardous Waste Branch, Manager
Division of Waste Management
300 Sower Blvd., 2nd Floor
Frankfort, KY 40601

II.B.2.3 The Permittee shall submit one (1) hard copy and one (1) electronic copy of the Application plus a cover letter accompanying the renewal to the U.S. Environmental Protection Agency Region 4 (EPA Region 4) by verifiable delivery at the following address:

ATTN: Chief, RCRA Cleanup and Brownfields Branch
Resource Conservation and Restoration Division
U.S. E.P.A. - Region 4 Sam Nunn Atlanta Federal Center
61 Forsyth St, SW
10th floor
Atlanta, GA 30303

II.B.2.4 The Permittee shall notify the Division proof of delivery of the Application and/or revisions to EPA Region 4 within seven (7) days of the receipt date.

II.B.3 Permit Expiration

Pursuant to **40 CFR Part 270.50**, this Permit shall be effective for a fixed term not to exceed ten (10) years. The Director shall not grant permission for the Application to be submitted later than the expiration date of the existing Permit. This Permit and all Permit Conditions herein will remain in effect beyond the Permit's expiration date, if:

II.B.3.1 The Permittee has submitted a timely and complete Application in accordance with **40 CFR Part 270.10(h)**, **40 CFR Part 270.13** through **270.28**; and,

II.B.3.2 Through no fault of the Permittee, the Division has not issued a new Permit, as set forth in **40 CFR Part 270.51**.

II.B.4 Permit Modifications

This Permit may be modified as specified in the following: [**40 CFR Part 124.5**, **40 CFR Part 270.41, 40**

CFR Part 270.42]

II.B.4.1 Routine Changes

A routine change or modification to the Permit is any change that qualifies as a Class 1 or Class 2 Permit Modification under **40 CFR Part 270.42**.

The Permittee shall not implement any Class 1 Permit Modification that requires approval or Class 2 Permit Modification without written approval from the Manager.

Class 1 Permit Modifications for which prior approval is not required under **40 CFR Part 270.42** may be implemented without prior notice or approval by the Division if notice of the modification is submitted to the Division within seven (7) calendar days after the change is put into effect.

II.B.4.2 Significant Changes

A significant change or modification to the Permit is:

II.B.4.2.1 Any change that qualifies as a Class 3 Permit Modification under **40 CFR Part 270.42**; or

II.B.4.2.2 Any change not explicitly identified in **40 CFR Part 270.42**; or

II.B.4.2.3 Any amendments resulting in less stringent terms or conditions in the Permit .

II.B.4.3 Modification and Corrective Action

The Permittee shall modify the Permit to incorporate the corrective action plans, if necessary, developed as specified in *Permit Condition IV.I.3*, throughout this Permit, and financial assurance for corrective action as required under regulations **40 CFR Part 270.41, 40 CFR Part 270.42 40 CFR Part 264.101, 40 CFR Subpart H, and 401 KAR 39:090 Sections 1(2) and 2(3)**.

II.B.4.4 Modifications: General Submittals Requirements

II.B.4.4.1 Submit to the Director the exact change(s) and reason for the changes intended for this Permit and if the changes include modifications to the information provided or to terms and conditions in this Permit.

II.B.4.4.2 Identify the Class modification type;

II.B.4.4.3 Explain why the modification is needed;

II.B.4.4.4 Provide the applicable information required by **40 CFR Part 264** and **270**.

II.B.4.4.5 The Permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the Director and to the appropriate units of State and local government as specified in **40 CFR Part 270.42**

II.B.4.4.6 Provide to the Manager evidence of the mailing and publication of the public notice as applicable and required under **40 CFR Part 270.42** and **40 CFR Part 124 - Subpart A**.

II.B.4.4.7 Submit and comply with any other information required under **40 CFR Part 260** through **270** and **KRS 224.46**.

II.B.4.5 Modification Submittals

The Permittee shall submit three (3) hard copies and one (1) electronic copy plus a cover letter of any Permit Modification request and fee payable to the Kentucky State Treasurer to the Division by hand delivery or verifiable delivery at the address provided in *Permit Condition II.B.2.2.*

II.B.4.5.1 The Permittee shall submit one (1) hard copy and one electronic copy of any Permit Modification Application plus a cover letter accompanying the modification to the U.S. EPA Region 4 at the address provided in *Permit Condition II.B.2.3.*

II.B.4.5.2 The Permittee shall submit to the Division proof of delivery of the submittal to EPA Region 4 within seven (7) days of receiving notification of the EPA receipt date.

II.B.5 Modifications of this Permit do not constitute a reissuance of this Permit.

II.C SEVERABILITY

The provisions of this Permit are severable. If any provision of this Permit, or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected or diminished. [**40 CFR Part 124 - Subpart A**]

II.D DEFINITIONS

For the purposes of this Permit, terms used herein shall have the same meaning as those established in **401 KAR 39:005** and **401 KAR 40:001**, unless this Permit specifically provides otherwise; where terms are not otherwise defined, the meaning associated with such terms shall be as defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term. The terms “Cabinet”, “Division”, “Director” and “Manager” can be used interchangeably.

II.D.1 "Area of Concern" (AOC)

Any area having a probable or known release of a hazardous waste(s) or hazardous constituent(s) which is not from a Solid Waste Management Unit and is determined by the Manager to pose a current or potential threat to human health or the environment. Such Areas of Concern may require investigations and remedial actions in order to ensure adequate protection of human health and the environment.

II.D.2 "Contamination"

The presence of any hazardous waste constituent in a concentration which exceeds the background concentration of that constituent in the immediate vicinity of the facility.

II.D.3 "Corrective Action"

May include all corrective measures necessary to protect human health and the environment from all releases of hazardous waste or hazardous waste constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit, as required under **KRS 224.46-530**, and **401 KAR 39:090, Section 8**.

II.D.4 "Extent of Contamination"

Horizontal and vertical area in which the concentration of hazardous constituents in the environmental media being investigated are above the detection limit or background concentrations indicative of the region, whichever is appropriate as determined by the Manager.

II.D.5 "Leak Detection and Repair Program" (LDAR Program)

The processes and procedures set forth in Facility Description: Equipment Leak Standards; Compliance Plan: Subpart BB Air Emissions Standards; and Compliance Plan: Subpart CC Air Emissions Standards, of the Approved Permit Application.

II.D.6 "Interim Measures"

For the purposes of this Permit *"Interim Measures"* are actions necessary to minimize or prevent the further migration of contaminants and limits actual or potential human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented.

II.D.7 "Release"

For purposes of this Permit includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous waste constituents.

II.D.8 *"Unit"*

For the purpose of this Permit includes, but is not limited to any area which waste has been placed on or in the ground, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank, container storage area, septic tank, drain field, wastewater treatment unit, elementary neutralization unit, transfer facility, or recycling.

II.E DUTIES AND REQUIREMENTS

II.E.1 Duty to Comply

The Permittee must comply with all Permit Conditions of this Permit except to the extent and for the duration that such non-compliance is authorized by an Emergency Permit. Any Permit non-compliance, other than non-compliance authorized by an Emergency Permit, constitutes a violation of **KRS Chapter 224** and is grounds for enforcement action, Permit termination, revocation and reissuance, modification, or denial of a Permit Renewal Application. [**40 CFR Part 270.30**]

II.E.2 Duty to Reapply

If the Permittee intends to continue an activity allowed or required by this Permit after the expiration date of this Permit, the Permittee shall submit a complete Application for a new Permit at least one hundred eighty (180) days prior to Permit expiration [**40 CFR Part 270.30** and **40 CFR Part 270.10**]. The Permittee must comply with the public notice requirements of **40 CFR Part 124.10**.

The Permittee must apply for a new Permit in accordance with the regulations and *Permit Conditions II.B.2*.

II.E.3 Obligation for Corrective Action

The Permittee is required to continue this Permit for any period necessary to comply with the corrective action requirements of this Permit. The Corrective Action obligations contained in this Permit will continue regardless of whether the facility continues to operate or ceases operation and closes. The Permittee is obligated to complete facility-wide Corrective Action under the terms and conditions of this Permit regardless of the operational status of the facility. [**40 CFR Part 264.100, 40 CFR Part 264.101**, **40 CFR Part 270.1** and **40 CFR Part 270.51**]

II.E.4 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the Permitted activity to maintain compliance with the terms and conditions of this Permit. [**40 CFR Part 270.30**]

II.E.5 Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. [**40 CFR Part 270.30**]

II.E.6 Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the terms and conditions of the Permit. [**40 CFR Part 270.30**]

II.E.7 Duty to Provide Information

The Permittee shall furnish the Manager, within a reasonable time, any information requested to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish the Manager upon request copies of the records kept as a requirement of this Permit. [**40 CFR Part 270.30**]

II.E.8 Inspection and Entry

The Permittee shall allow an authorized representative of the Division, upon the presentation of credentials and other documents, as may be required by law, [**40 CFR Part 270.30**]

II.E.8.1 To enter at reasonable times the Permittee's premises where the regulated facility or activity is located or conducted; or where records must be kept under the Permit Conditions of this Permit;

II.E.8.2 To have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

II.E.8.3 To inspect and photograph at reasonable times, any facilities, equipment, (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

II.E.8.4 Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location. Split samples and copies of analysis will be provided to the Permittee upon request.

II.E.9 Monitoring and Records

II.E.9.1 Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain representative samples of the wastes and/or contaminated media to be analyzed must be the appropriate method from **40 CFR Part 261 Appendix I**, or an equivalent method if specified in the application, or otherwise approved by the Manager. Laboratory methods must be those specified in the most recent edition of *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (SW-846, current edition) or a method approved by the Cabinet in accordance with **40 CFR Part 270.30** and **40 CFR Part 260 - Subpart C**.

II.E.9.2 In accordance with **40 CFR Part 270.30**, the Permittee shall retain the following records at the facility, or at another location as approved by the Manager; records of all monitoring information required under the terms and conditions of this Permit, including:

II.E.9.2.1 All calibration and maintenance records;

II.E.9.2.2 Records of all original strip chart recordings for continuous monitoring instrumentation;

II.E.9.2.3 Copies of all reports and records required by this Permit and all data used to prepare them;

II.E.9.2.4 Records of all data used to complete the Application for this Permit; and

II.E.9.2.5 Certification required by **40 CFR Part 264.73**.

The Permittee shall retain these items for a period of at least three (3) years from the date of the sample, measurement, report, record, certification, or Application, or until corrective measures on the regulated unit(s) are completed, whichever date is later.

This period may be extended if requested by the Director at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility.

Permit Condition II.E.9 also applies to all records which must be maintained for the solid waste management units at the facility.

The Permittee shall maintain records from all surface water sampling, seep sampling, soil sampling, sediment sampling, ground-water, monitoring wells and associated ground-water surface elevations, for the active life of the facility, and, for disposal facilities, for the Post-Closure Care period as well.

II.E.9.3 Pursuant to **40 CFR Part 270.30**, records of monitoring information shall specify:

II.E.9.3.1 The date, exact place, and time of sampling or measurements;

II.E.9.3.2 The individual(s) who performed the sampling or measurements;

II.E.9.3.3 The date(s) analyses were performed;

II.E.9.3.4 The individual(s) who performed the analyses;

II.E.9.3.5 The analytical techniques or methods used; Analytical technique(s) or method(s) is defined as encompassing both the sampling technique (method) and method of chemical analysis used. This information must be provided in the Waste Analysis Plan; and

II.E.9.3.6 The results of such analyses, including the detection limits and Quality Assurance/Quality Control (QA/QC) documentation.

II.E.9.4 If paper copies are not retained, backup electronic copies of all data must be prepared on a weekly basis. The backup system shall be independent of (1) the systems used to collect the data and (2) the systems used to store the primary copy. All data stored in electronic format must be available for review at the facility at all times by regulatory personnel.

II.E.9.5 Monitoring results shall be reported at intervals specified elsewhere in the Permit in accordance with **40 CFR Part 270.30**.

II.E.10 Reporting Planned Changes

The Permittee shall give notice to the Manager as soon as possible of any planned physical alterations or additions which may impact any Hazardous Waste Management Units (HWMUs), Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), or the areas contaminated by them. [**40 CFR Part 270.30**]

II.E.11 Reporting Anticipated Non-Compliance

The Permittee shall provide to the Manager, advance written notice of any planned changes in the Permitted facility or activity that may result in non-compliance with Permit requirements. [**40 CFR Part 270.30**]

II.E.12 Certification of Construction or Modification

For a new facility, the permittee may not treat, store, or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility except as provided in **40 CFR Part 270.42**, until:

II.E.12.1 The Permittee has submitted to the Manager by certified mail or hand delivery a letter signed by the Permittee and an independent Professional Engineer registered in the Commonwealth of Kentucky stating that the facility has been constructed or modified in compliance with the Permit [**40 CFR Part 270.30]**; and

II.E.12.1.1 The Division has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the Permit; or [**40 CFR Part 270.30**]

II.E.12.1.2 The Cabinet either has waived the inspection or has not, within fifteen (15) days of receipt of the above, notified the Permittee of its intent to inspect. [**40 CFR Part 270.30**]

II.E.12.2 The certification must include at a minimum:

II.E.12.2.1 As-built drawings;

II.E.12.2.2 Descriptions and delineation of any changes to proposed drawings;

II.E.12.2.3 All required professional certifications;

II.E.12.2.4 All Quality Assurance/Quality Control (QA/QC) documentation; and

II.E.12.2.5 All required physical testing results.

II.E.12.b.6 In case of deviations from design specifications which may occur during construction; these must be noted in the engineer's statement accompanied with an evaluation of the impact of the deviation on facility or specific unit performance. If the Division determines that the deviations are indeed minor and will not adversely impact the Permittee's ability to comply with the conditions of this

Permit, Division may modify the Permit accordingly.

II.E.12.2.7 Any additional requirements the Division deems necessary.

II.E.13 Transfer of Permit

This Permit may be transferred to a new owner or operator only if it is modified or revoked pursuant to **40 CFR Part 270.40** and **40 CFR Part 270.41** or a Class 1 Permit Modification is made pursuant to **40 CFR Part 270.42** that identifies the new Permittee and incorporates such other requirements as may be necessary under **KRS Chapter 224** and **40 CFR Part 260** through **270**. Until the new owner or operator has demonstrated compliance with **40 CFR Part 264 - Subpart H** the old owner/operator shall continue to maintain financial assurance until released by the Manager in writing. Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner/operator in writing of the requirements of **40 CFR Part 260** through **270** as well as **401 KAR Chapters 39 and 40** and this Permit [**40 CFR Part 264.12**] including all applicable Corrective Actions requirements. This Permit is not transferrable to any person except after prior written approval of the Director. [**40 CFR Part 270.30**]

II.E.14 Compliance Schedule

II.E.14.1 Reports of compliance or non-compliance with, or any progress reports on interim and final requirements contained in any type of compliance schedule of this Permit shall be submitted no later than fourteen (14) days following each scheduled date as required by **40 CFR Part 270.30**. Submissions shall be made in hard and electronic copies.

II.E.14.2 The Permittee shall, at a minimum, provide one (1) week advance notification to the appropriate Cabinet's field personnel, corrective action section staff or permit review section staff for any sampling event required by this Permit or its effects.

II.E.15 Two-Hour Reporting

The Permittee shall report to the Manager any non-compliance, including releases, which may endanger human health or the environment. Any information shall be provided orally within two (2) hours from the time the Permittee becomes aware of the circumstances (the Kentucky 24-hour reporting number is 502-564-2380 or 1-(800) 928-2380). The information in *Permit Conditions II.E.15.1* and *II.E.15.2* shall be reported orally within two (2) hours: [**401 KAR 39:060 Section 6**]

II.E.15.1 Information concerning release of any hazardous waste or hazardous constituents that may cause an endangerment to public drinking water supplies, including both surface water and groundwater used for public drinking water supply; and

II.E.15.2 Any information of a release or discharge of hazardous waste constituents, or of a fire or explosion at the facility that could threaten the environment or human health outside the facility.

II.E.15.3 The Permittee shall also provide a written submission to the Director within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the non-compliance and its cause; the periods of non-compliance (including exact dates and times); whether the non-compliance has been corrected; and if the non-compliance

has not been corrected, the anticipated time it is expected to continue; and steps planned or taken to reduce, eliminate, and prevent reoccurrence of the non-compliance. [**40 CFR Part 270.30**]. This report shall also include the following:

II.E.15.3.1 The description of the occurrence and its cause;

II.E.15.3.2 Name, address, and telephone number of the owner or operator and the reporter;

II.E.15.3.3 Name, address, telephone number, and EPA identification number of the facility;

II.E.15.3.4 Date, time, and type of incident;

II.E.15.3.5 Name, and quantity of material(s) involved;

II.E.15.3.6 The extent of injuries, if any;

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II.E.15.3.7 An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and

II.E.15.3.8 Estimated quantity and disposition of recovered material that resulted from the incident.

II.E.16 Other Non-Compliance

The Permittee shall report all instances of noncompliance not reported under *Permit Conditions II.E.11* and *II.E.15* at the time monitoring reports are submitted. The reports shall contain the information listed in *Permit Condition II.E.15.3* of this Permit. [**40 CFR Part 270.30**]

II.E.17 Other Information

Whenever the Permittee becomes aware that he/she failed to submit any relevant facts, or submitted incorrect information in the application or in any report to the Manager, the Permittee shall promptly submit such facts or information. In addition, upon request, the Permittee shall furnish to the Manager any information related to compliance with the Permit. [**40 CFR Part 270.30**]

Noncompliance with terms and conditions of the Permit that result in letters of warning, notice of violation letters from the Cabinet, an agreed order, or criminal enforcement of environmental laws by the Commonwealth of Kentucky shall be used to document the reliability, expertise, integrity and competence of the Permittee, and would be considered by the Cabinet in making future changes to the Permit, such as changes to permit conditions or duration, pursuant to **40 CFR Part 270 - Subpart D** and **40 CFR Part 270.32**; and when issuing a new Permit as set forth in **40 CFR Part 270.50**.

II.F SIGNATORY REQUIREMENTS

All Applications, reports and/or information required by this Permit, or otherwise submitted to the Manager, shall be signed and certified in accordance with **40 CFR Part 270.11** and **40 CFR Part 270.30**.

II.G REPORTS, NOTIFICATION AND SUBMISSIONS TO THE DIVISION

All reports, notifications, or other submittals that this Permit requires are to be mailed to the Manager. Two (2) hard copies and one (1) electronic copy in a standard text-searchable format (e.g., portable document format) acceptable to the Cabinet shall be provided to the address stated in *Permit Condition II.B.2.2.*

II.H CHANGES TO PERMIT

II.H.1 Additions or Alterations

The Cabinet may modify the Permit when there is material and substantial alterations or additions to the Permitted facility, or activity; which occurred after Permit issuance, which justify the application of conditions that are different or absent in this Permit. [**40 CFR Part 270.41**]

II.H.2 New Information

II.H.2.1 The Cabinet may modify the Permit when the Cabinet receives new information.

II.H.2.2 Permits may be modified during their terms for this cause, if the information was not available at the time of Permit issuance and justify the application of different conditions. [**40 CFR Part 270.41**]

II.H.3 New Statutes, Standards, or Administrative Regulations

The Cabinet may modify this Permit when the standards or administrative regulations on which this Permit is based have been changed by "statute", amended standards, administrative regulations, or by judicial decision after the Permit was issued. [**40 CFR Part 270.41**]

This Permit is subject to any further statutory or regulatory changes whose purpose is to protect the health and welfare of the Commonwealth citizen and the environment (see **40 CFR Part 270.41**, except as provided in **40 CFR Part 270.4)**.

II.H.4 Amendment of Part A Application

The Permittee shall submit a revised Part A Application if the Part A information changes in conjunction with any request for modification of this Permit. In addition, a revised Part A shall be submitted to the Cabinet ninety (90) days prior to change in ownership or operational control to the facility pursuant to **40 CFR Part 270.40**, and shall be signed and certified by the new owner or operator.

II.I CONFIDENTIAL INFORMATION

Any person who submits information to the cabinet pursuant to **401 KAR Chapters 39** and **40**, may assert a claim of business confidentiality or trade secret covering part or all of that information by following the

procedures established in **KRS 224.10-212** and **400 KAR 1:060**. [**401 KAR 39:060 Section 6(9)**]

II.J DOCUMENTS TO BE MAINTAINED AT FACILITY

The Permittee shall maintain at the facility, until closure is completed and certified by an independent Professional Engineer registered in the Commonwealth of Kentucky, and verified by the Cabinet, the following documents and amendments, revisions, and modifications to these documents:

II.J.1 Permit

This Permit and any correspondence related to this Permit, including the approved permit application which is incorporated into this permit in **Part VIII**

II.J.2 Waste Analysis Plan

As required by **40 CFR Part 264.13**.

II.J.3 Inspection Schedules

As required by **40 CFR Part 264.15**, for a period of three (3) years or longer if specified otherwise in the Permit and/or by the Site Management Plan.

II.J.4 Personnel Training Documents and Records

As required by **40 CFR Part 264.16**.

II.J.5 Contingency Plan

Current contingency plan as required by **40 CFR Part 264.53** and/or by the Site Management Plan.

II.J.6 Operating Record

As required by **40 CFR Part 264.73**.

II.J.7 Closure Plan

As required by **40 CFR Part 264.112**.

II.J.8 Annually-Adjusted Cost Estimate for Facility Closure and Post Closure Plan

As required by **40 CFR Part 264.142** and **264.144**.

II.J.9 Hazardous Waste Unit Requirements

Documents as required by **40 CFR Part 264 - Subpart I** (Containers), **40 CFR Part 264 – Subpart J** (Tanks Systems), and **40 CFR Part 264 – Subpart AA**, **BB** and **CC** (Organic Air Emission Standards).

II.J.10 Annual Reports

As required by **401 KAR 39:060 Section 5(18)**.

II.J.11 Manifests

Copies of all manifests for shipments of hazardous waste received at and originating from this facility, kept as required by **40 CFR Part 264.71**.

II.J.12 Notifications from Generators

Notifications from generators subject to **40 CFR Part 268** that specify treatment standards. [**40 CFR Part 264.73**, **40 CFR Part 262.40**]

II.J.13 Waste Minimization

Waste minimization certifications must be part of the Operating Record. [**40 CFR Part 264.73**]

II.J.14 Closed Vent System and Control

Records regarding closed-vent systems and control devices and/or equipment leaks as required by **40 CFR Part 264.1033** and **40 CFR Part 264.1087**

II.J.15 Groundwater Monitoring

Results and reports as required by **40 CFR Part 264 - Subpart F** and by the Site Management Plan.

II.J.16 All Other Documents

Assessment, report, installation, and repair certifications and records as required by this Permit and/or by the Site Management Plan.

II.K PERMIT CONDITIONS AND ATTACHMENTS

All attachments and documents required by this Permit—including all plans and schedules—, upon approval by the Director, is incorporated into this Permit by reference and become an enforceable part of this Permit. Since required items are essential elements of this Permit, failure to submit any of the required items or submission of inadequate or insufficient information may subject the Permittee to enforcement action under **401 KAR 40:040, KRS 224.99-010,** and/or **Section 3008** of RCRA which may include fines, suspension, or revocation of the Permit. Any noncompliance with approved plans and schedules shall be termed noncompliance with this Permit.

II.K.1 Precedence of Permit over Attachments

If any of the Attachments to this Permit are found to conflict with any of the conditions in Part I through VIII

of this Permit, the Condition of this Permit shall take precedence.

II.K.2 Precedence of Appendix over Application

If any Section of the Application is found to be in conflict with any Appendix to this Permit, the Appendix to this Permit shall take precedence.

END OF PERMIT CONDITIONS

PART III SPECIFIC PERMIT CONDITIONS

PART III
SPECIFIC PERMIT CONDITIONS

The terms and conditions of this Permit are applicable to PMC Organometallix Inc. under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

III.A FACILITY DESCRIPTION

III.A.1 This Permit is issued for storage and treatment of hazardous waste at PMC Organometallix Inc. (hereinafter referred to as the "Permittee"). [**40 CFR Part 264.1**]

PMC Group N.A., Inc. owns the facility operated by PMC Organometallic, Inc. PMC Organometallix Inc., Carrollton, Kentucky (PMC) plant is a batch manufacturer of both organic and inorganic tin compounds that are used as thermal and optical stabilizers in PVC resin formulations, catalysts for chemical reactions, miticides, pesticides, and other primarily industrial applications. In addition, tin oxide ash and dust are produced from incinerated wastes. These tin oxides are sold for feed material to an offsite tin recovery facility.

Process operations at the PMC plant include mixing, distillation, filtration, centrifugation, thin-film evaporation, drying, and controlled chemical reactions. These process operations generate onsite wastes that can be generally placed in the following categories: waste solvents, distillation column bottoms, filter papers, filter residue, lab wastes, sewer solids, off-specification product, waste lubricants, off-specification raw materials, spent catalyst, filter cartridges, and by-products. There are seventeen process areas in operation at the plant. PMC operates an on-site Wastewater Treatment (B67) facility that treats plant water from process areas as well as scrubber water from the tin recovery incinerator system. The wastewater treated in the on-site wastewater treatment units are regulated under the Clean Water Act and are exempt from RCRA per the RCRA Wastewater Treatment Unit Exemption.

Additionally, the plant accepts off-site hazardous waste materials from other PMC facilities or affiliated operations for treatment and/or recovery in the incinerator. The bar code identification system is used to track off-site hazardous container wastes. Industrial wastes excluded from receipt include: PCBs > 50 ppm (per 40 CFR 710); radioactive materials; shock-sensitive materials; pressurized gas cylinders; explosives; cyanides and uncharacterized wastes, medical wastes, and poisons. The list of wastes that are potentially managed at the plant is provided in Part A of this renewal application.

The plant occupies approximately 39 acres, while property lines extend over 440 acres. The Universal Transverse Mercator (UTM) coordinates for the approximate center of the plant are 4293.5 kilometers north by 661.3 kilometers east. The plant is approximately 1.9 miles northeast of the center of the City of Carrollton and is located in the Ohio River Valley approximately 0.3 miles south of the Ohio River. The property on the river side of Highway U.S. 42 is not used for manufacturing.

III.A.2 The Permittee shall only conduct treatment and storage (for longer than 90 days) in the following hazardous waste management units:

III.A.2.1 The Permittee shall only store hazardous waste (for longer than 90 days) in three (3) container storage areas (B-65 Pad, B-64 Pad, and the Tank Truck Unloading area and four (4) Above Ground Storage Tanks (TK-052004A, TK-052009A, TK-052009B, TK-052010). (See *Table III.1*)

III.A.2.2 The Permittee shall only treat hazardous waste in five (5) Above Ground Treatment Tanks and (1) incinerator. (See *Table III.1*)

III.A.2.3 The Permittee is not allowed to dispose of any hazardous waste on-site.

TABLE III.1
TREATMENT and STORAGE PERMITTED AREAS/UNITS

Unit Type	Number of Units	Maximum Capacity	Unit Specific Requirement
Container Storage Areas	3	186,790 gallons	Permit Condition III.K
Tank Storage with Treatment	4	70,413 gallons	Permit Condition III.L
Tank Treatment only	1	20,000 gallons per day	Permit Condition III.L
Incinerator	1	2 short tons per hour	Permit Condition III.P
Total Permitted Units[1]	9		

[1] Total number of individual units permitted at the facility. - 3 Container Storage Areas, 5 Tanks (four of which both store and treat waste, and 1 Incinerator.

III.A.3 The Permittee shall not store or treat in an amount which exceeds the maximum allowable storage and treatment capacity listed in *Table III.1*.

III.A.4 The hazardous wastes which may be "stored" and/or "treated" at this facility are listed in the Part A permit application, incorporated into this permit as *Attachment A* in *Part I* of this permit, and are from the manufacturing of organometallic catalysts and stabilizers, organotins, grignard reagents, and organophosphines**.** Each hazardous waste shall be "stored" and/or "treated" as specified within this Permit. If at any point in time, the Permittee discovered that the facility is not properly equipped to manage any of the permitted EPA waste code(s), the Division shall be notified immediately.

III.B GENERAL FACILITY STANDARDS

III.B.1 Required Notices

III.B.1.1 Foreign Source

The Permittee shall notify the Cabinet and U.S. EPA Region 4 in writing at least four (4) weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source. [**40 CFR Part 264.12**]

III.B.1.2 Off-Site Sources

The Permittee must inform any off-site generator in writing that the facility has the appropriate Permit for, and will accept the waste that the generator is shipping. The Permittee must keep a copy of this written notice as part of the Operating Record. [**40 CFR Part 264.12**]

III.B.2 General Waste Analysis

III.B.2.1 The Permittee shall comply with all the requirements set forth under **40 CFR Part 264.13**. The Permittee shall verify the analysis of each waste stream frequently and also sample and analyze whenever a change occurs in the waste-generating process as part of its Quality Assurance/Quality Control (QA/QC) program, in accordance with *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846*, or equivalent methods approved by the Director and *Attachment C* of this Permit. At a minimum, the Permittee shall maintain proper functional instruments, use approved sampling and analytical methods, verify the validity of sampling and analytical procedures, and perform correct calculations.

III.B.2.2 The Permittee shall ensure that all samples collected for the purposes of waste characterization and environmental monitoring are representative samples and collected, transported, analyzed, stored, and disposed of by trained and qualified individuals in accordance with Waste Analysis Plan, including its QA/QC Plan in *Attachment C* of this Permit. The Waste Analysis Plan and QA/QC Plan shall, at a minimum, include the written procedures outlined *in "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846"*, or equivalent methods approved by the Director and *Attachment C* of this Permit and any facility or contractor's written standard operating procedures (SOPs) which are equivalent or more stringent than SW-846.

III.B.2.3 If the Permittee uses a contract laboratory to perform analyses, then the Permittee shall inform the laboratory in writing that it must operate under *Permit Condition III.B.2* set forth in this Permit.

III.B.2.4 Each waste stream accepted at this facility shall be fully identified and classified in accordance with *Permit Condition III.B.2*. At a minimum, the Permittee shall develop all of the information which must be known to treat the waste onsite in accordance with the terms and conditions of this Permit, as well as to treat and/or dispose of the waste at authorized offsite facilities. The Permittee shall review the analytical data to confirm that the Permittee is authorized to accept the waste stream. The Permittee must also confirm that (1) the data is sufficient for the intended ultimate destination facility, (2) the waste stream is acceptable to the intended ultimate

destination facility, and (3) the generator does not disapprove of the ultimate destination facility or treatment/disposal method.

III.B.2.5 The Permittee shall maintain in the Operating Record all records and results of all waste analyses performed as required by **40 CFR Part 264.73** and *Permit Condition III.B.2.* Such records and results shall be entered into the Operating Record as they become available and shall be maintained until closure of the facility.

III.B.2.6 For each hazardous waste stream, the Permittee must obtain from the generator a completed "Waste Profile Form" before accepting waste for treatment or storage.

III.B.2.7 The Permittee must grant advanced authorization for shipments of each waste stream from an off-site source. Prior to granting such authorization, the Permittee shall obtain a completed Waste Profile Sheet and, if necessary to grant advanced authorization, a representative pre-shipment sample of the waste from the generator.

III.B.2.8 The Permittee must perform a waste characterization (fingerprint) analysis on representative waste samples as specified in *Attachment C* of this Permit.

III.B.2.9 The Permittee must compare the results of the waste characterization (fingerprint) sampling program to the pre-acceptance analysis for the waste stream. The Permittee must notify the generator upon discovering a significant difference as required by **40 CFR Part 264.72** and *Permit Condition III.E.2*.

III.B.2.10 The wastes must be nonreactive, nonradioactive that do not contain regulated polychlorinated biphenyls (PCBs), medical wastes, explosives, poisons, greater than 250 milligrams of hydrogen cyanide gas per kilogram waste, greater than 500 milligrams of hydrogen sulfide gas per kilogram waste.

III.B.2.11 Bulk wastes

The Permittee must randomly sample and conduct a fingerprinting analysis of at least ten percent (10%) of bulk waste loads regardless of their origin, waste type, and/or Waste Stream Profile/Identification. Accordingly, at least every 10th bulk load received by the facility will be fingerprinted. Fingerprinting must also occur after a visual inspection whenever warranted or when there has been any reported change in the process generating that particular waste. *Permit Condition III.B.2.11* is applicable to all incoming wastes, regardless of which storage, treatment, or disposal option is selected. The Permittee must collect samples for fingerprint analysis as specified in Permit Condition VIII.C, *Attachment C, Waste Analysis Plan.*

III.B.3 Security

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.14** and shall follow the security measures outlined in *Attachment F* of the Permit and/or those outlined in the Site Management Plan, as an attachment of the Part E permit application (incorporated herein as *Attachment E*).

III.B.3.1 The Permittee shall maintain the 6-foot high locked chain-link fence around the facility and gates

in good operating condition at all times. The main gate and other access gates at the facility shall be closed, chained, and locked when the facility personnel are not on site.

III.B.3.2 The Permittee shall maintain security that monitors and controls entry to the site twenty four (24) hours. Other forms of security include road barriers that restrict site entry on off shifts and weekends.

III.B.3.3 The entrances to the storage and treatment units areas shall remain locked unless personnel are present.

III.B.3.4 Appropriate lighting shall be maintained in working order. The plant, roads, areas processing and managing hazardous waste, around tank farms and individual tanks, loading, unloading areas shall remain well lit from dusk till dawn.

III.B.3.5 The Permittee shall maintain warning signs at each entrance to the permitted areas, on the perimeter fencing, and on each face of the hazardous waste structure. The warning signs are to be legible from a distance of at least twenty-five (25) feet and read "NOTICE-UNAUTHORIZED PERSONNEL ARE NOT PERMITTED IN PLANT". Smoking shall only be allowed in designated smoking areas. This information shall be provided to visitors, contractors, and employee during safety orientations.

III.B.4 General Inspection Requirements

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.15**, except **40 CFR Part 264.15(b)(5)** and with the Site Management Plan, as an attachment of the Part E permit application (incorporated herein as *Attachment E*).

III.B.4.1 Inspection Remedies

The Permittee shall remedy any structural deterioration, unauthorized discharges, safety violations, equipment malfunction, or security compromises discovered by an inspection in accordance with **40 CFR Part 264.15**.

III.B.4.2 Inspection Records

The Permittee shall keep records of inspections as part of the Operating Record in accordance with **40 CFR Part 264.15**.

III.B.5 Personnel Training

The Permittee shall conduct personnel training as required by **40 CFR Part 264.16** and/or the Site Management Plan. The Training Outline (*Attachment H*) shall be the guidance to the actual training. Completion of the training course outlined in *Attachment H* is required for all facility personnel involved in the management and handling of hazardous wastes.

III.B.5.1 The Permittee shall maintain training documents and records as required by **40 CFR Part 264.16**.

III.B.5.2 All new employees hired in positions that involve hazardous waste management shall successfully complete the training within six (6) months of their employment or assignment to a facility, or to new position at a facility and must not work in unsupervised positions until they have successfully completed the training described in *Permit Condition III.B.5.* [**40 CFR Part 264.16**]

III.B.5.3 All employees involved in hazardous waste management must take part in an annual review of the initial training. [**40 CFR Part 264.16]**

III.B.5.4 The Permittee shall prepare and maintain detailed job descriptions with all information required by **40 CFR Part 264.16**, for the emergency coordinator(s) and all personnel involved in the management and handling of hazardous waste in the facility.

III.B.5.5 Only the Permittee's employees who are fully trained in the Facility's operations and procedures are allowed to handle the hazardous waste operations at the Facility, unless directly under the supervision of a fully trained employee.

III.B.6 Personnel Protection

III.B.6.1 A summary of the applicable toxicity/health hazard, fire and explosion hazard potential, radiation exposure potential, protective equipment recommendations and first-aid procedures to be followed for the various waste materials shall be prepared by the Permittee and kept on file at the facility. In addition, those waste materials associated with the SWMUs and AOCs shall be prepared by the Permittee and kept on file at the facility in accordance with the Site Management Plans.

III.B.6.2 The information required by *Permit Condition III.B.6.1*, shall be made readily available to facility personnel (and contractors if applicable) to determine the appropriate personnel protective equipment to be worn when handling the hazardous waste.

III.B.7 Requirements for Ignitable, Reactive or Incompatible Wastes

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.17** and follow the procedures for handling ignitable, reactive, and incompatible wastes set forth in *Attachment F* of this Permit. The Permittee must prevent accidental ignition or reaction of ignitable and/or reactive wastes.

III.B.7.1 The Permittee shall not place hazardous waste in an unwashed container, tank, or incinerator, which previously held incompatible wastes or material. [**40 CFR Part 264.177** and **40 CFR Part 264.199**]

III.B.7.2 The Permittee shall utilize the procedure under the *Attachment C* and *Attachment D* to ensure that ignitable, reactive or incompatible wastes are not stored improperly.

III.B.7.3 The Permittee must provide electrical grounding for all containers, tanks, incinerators, and transport vehicles during all operations involving the handling of ignitable or reactive wastes.

III.B.7.4 The Permittee shall provide and require the use of explosion-proof motors, grounding straps, and non-sparking electrical devices during all operations involving the handling of all ignitable or

reactive wastes. When there is a reasonable possibility of flammable atmospheres being present, material handling equipment and hand tools shall be of the type to prevent sources of ignition.

III.B.7.5 The Permittee shall prohibit smoking and open flames in each area where ignitable, reactive or incompatible hazardous wastes are managed and must post appropriate warning signs.

III.B.7.6 The Permittee shall document compliance with *Permit Condition III.B.7* and place this documentation in the Operating Record.

III.B.8 Location Standards

The Permittee shall comply with all the applicable locations standards set forth under **40 CFR Part 264.18.**

III.C PREPAREDNESS AND PREVENTION

III.C.1 Design and Operation of Facility

The Permittee shall construct, maintain, equip and operate the facility in a manner to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment, as required by **40 CFR Part 264.31** and in accordance with the Site Management Plan, as an attachment of the Part E permit application (incorporated herein as *Attachment E*).

III.C.2 Required Equipment

III.C.2.1 The Permittee shall comply with all requirements and at a minimum, the Permittee shall keep all equipment at the facility as set forth under **40 CFR Part 264.32** and specified in the Contingency Plan, *Attachment G*.

III.C.2.2 The Permittee shall maintain all emergency equipment at the locations, which are listed in *Attachment G* of this Permit.

III.C.3 Testing and Maintenance of Equipment

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.33**. Permittee shall test and maintain all equipment specified in *Permit Condition III.C.1* and *Permit Condition III.C.2* to ensure proper operation in time of emergency. In addition to the inspection schedule given in *Attachment F and in the Site Management Plan,* as an attachment of the Part E permit application (incorporated herein as *Attachment E*), all emergency equipment described in the Contingency Plan shall be checked at least once a month for quality and proper functional assurance, unless a higher frequency is necessary.

III.C.4 Access to Communication or Alarm System

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.34**.

III.C.4.1 Waste Handling

The Permittee shall ensure that all personnel shall have immediate access to an internal alarm system or emergency communications device, either directly or through visual or voice contact with another employee whenever hazardous waste is being poured, mixed, spread, or otherwise handled.

III.C.4.2 Single Person

The Permittee shall ensure that any employee, when working alone without the immediate presence of another employee, shall have immediate access to a device, such as a telephone at the area of operations, or a hand-held two-way radio, capable of summoning external emergency assistance.

III.C.5 Required Aisle Space

The Permittee must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the Division that aisle space is not needed for any of these purposes. **[40 CFR Part 264.35]**

III.C.6 Reserved

III.C.7 Arrangements with Local Authorities

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.37** and *Permit Condition III.D.3.*

The Permittee shall document in the Operating Record any refusal by any of the state or local authorities to enter into such arrangements.

III.D CONTINGENCY PLAN AND EMERGENCY RESPONSE

III.D.1 Implementation of Contingency Plan

The Permittee shall immediately carry out the provisions of the Contingency Plan, *Attachment G*, and Site Management Plan, and follow the emergency procedures described in **40 CFR Part 264.56**, whenever there is a fire, explosion, or release of hazardous waste or constituents that could threaten human health or the environment. The Permittee shall comply with all requirements set forth under **40 CFR Part 264.51**.

At a minimum, the plan must be implemented in the following situations:

III.D.1.1 Any fire involving hazardous waste;

III.D.1.2 Any explosion involving hazardous waste;

III.D.1.3 Any uncontrolled hazardous waste reaction or hazardous waste release that produces or has the potential to produce hazardous conditions, including noxious, poisonous, flammable and/or explosive gases, fumes, or vapors; harmful dust; or explosive conditions;

III.D.1.4 Any fire or explosion that has an increased potential to threaten human health or the environment due to its proximity to a hazardous waste management unit; or

III.D.1.5 Any hazardous waste release, outside of a secondary containment system that causes or has the potential to cause off-site soil and/or surface water contamination.

III.D.2 All Released Material from Emergency Response and Product of the Contingency Plan Implementation

III.D.2.1 Immediately after an emergency, the Permittee must provide for storing, treating, or disposing of recovered waste, contaminated soil or surface water, and/or any other material that results from a release, fire, or explosion at the facility.

III.D.2.2 The Permittee is required to evaluate all liquid or solid material resulting from fire, explosion, released material or emergency response material and by-products to determine whether such material is hazardous waste in accordance with **40 CFR Part 260** through **270**. If such material is determined to be hazardous waste, it must be handled accordingly.

III.D.3 Copies of the Contingency Plan

As set forth in **40 CFR Part 264.53,** a copy of the contingency plan and all revisions to the plan must be maintained at the facility and submitted to all local police Divisions, fire Divisions, hospitals, as well as State and local emergency response teams that may be called upon to provide emergency services.

III.D.4 Amendment of Contingency Plan

The Permittee shall review at least annually and amend the plan immediately, if necessary, as required by **40 CFR Part 264.54**, and whenever:

III.D.4.1 This Permit is revised;

III.D.4.2 The Contingency Plan fails during an emergency;

III.D.4.3 The Permittee modifies the facility, in either its design, construction, operation, maintenance, or other circumstances, in a manner that increases the potential for fires, explosions, or releases of hazardous waste constituents, and/or changes the response necessary in an emergency;

III.D.4.4 The Permittee modifies the list of emergency coordinators; and/or

III.D.4.5 The Permittee modifies the list of emergency equipment.

III.D.4.6 Compliance with the review requirement of III.D.4 shall be demonstrated by a revision/review date on the cover of the Contingency Plan. If the last revision is within one year of the date of

inspection, the annual review requirement is considered satisfied.

The Permittee shall provide copies of any amended Contingency Plan to the Local Authorities specified in *Permit Condition III.D.3.* Any amendment shall be subject to the requirements of **40 CFR Part 270.41, 270.42** and **270.50**.

III.D.5 Emergency Coordinator

A trained emergency coordinator shall be available at all times in case of an emergency, as required by **40 CFR Part 264.55**. The Permittee shall comply with all requirements set forth under **40 CFR Part 264.55**.

III.D.5.1 Whenever there is an imminent or actual emergency situation, the emergency coordinator (or designee when the emergency coordinator is not available) must immediately:

III.D.5.1.1 Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

III.D.5.1.2 Notify appropriate State or local agencies with designated response roles if their help is needed.

III.D.5.2 Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and area of extent of any released materials. Emergency Coordinator may do this by observation or review of facility records or manifests, and/or by chemical analysis.

III.D.5.2.1 Concurrently, the Emergency Coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

III.D.5.2.2 If the Emergency Coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he/she must report his findings as follows: [**KRS 224.01-400 (6)**]

III.D.5.2.2.1 If Emergency Coordinator's assessment indicates that evacuation of local areas may be advisable, he/she must immediately notify appropriate local authorities. [**KRS 224.01-400(6)].** Emergency Coordinator must be available to help appropriate officials decide whether local areas should be evacuated; and

III.D.5.2.2.2 Emergency Coordinator must immediately notify the Kentucky Emergency Response Team at (502) 564-2380 or using their 24-hour toll free number (800) 928-2380 and/or the National Response Center (using their 24-hour toll free number (800) 424-

8802). The report must include details specified in *Permit Condition II.E.15*.

III.D.5.2.2.3 During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

III.D.5.2.2.4 If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

III.D.5.3 Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, spill, fire, or explosion at the facility.

The Emergency Coordinator must ensure that, in the affected area(s) of the facility:

III.D.5.3.1 No waste that may be incompatible with the released material is treated, stored, or disposed of until decontamination and cleanup procedures are completed; and

III.D.5.3.2 All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

III.D.5.4 The Permittee shall notify the Florence Regional Office, 8020 Veteran's Memorial Drive, Florence, KY 41042 , (502) 782-8871 and appropriate Federal, State and local authorities, that the facility is in compliance with conditions in Part II through Part VIII of this Permit before operations are resumed in the affected area(s) of the facility.

III.D.6 Emergency Procedure

The procedure stated in *Permit Condition III.D.5* and *Attachment G* must be implemented whenever there is an imminent or actual emergency situation including any release of hazardous waste, fire, or explosion which occurs in the hazardous waste management area or units. The Permittee shall comply with all requirements set forth under **40 CFR Part 264.56**.

III.D.7 Notation in the Operating Record

The Permittee must note in the Operating Record the time, date, and details of any incident and/or event that requires implementing the Contingency Plan. The Permittee shall also record on the Operating Record of the facility the amount, storage, treatment and disposal arrangements of all material resulting from fire, explosion, released material or emergency response material and by-products.**[40 CFR 264.73]**

III.D.8 Notification to the Cabinet

The Permittee must comply with notification procedures in *Permit Condition II.E.15* and *Permit Condition III.D.5* as set forth in **40 CFR Part 264.56**, and as outlined in the *Attachment G and the Site Management Plan.*

III.E MANIFEST SYSTEM

III.E.1 Use of the Manifest

The Permittee shall comply with the manifest requirements of **40 CFR Part 264.71** and **264.72**.

III.E.2 Manifest Discrepancy Report

III.E.2.1 Within fifteen (15) days of discovery of a discrepancy, the Permittee shall report the discrepancy to the Cabinet, if the discrepancy cannot be reconciled within this fifteen (15) days, per **40 CFR Part 270.30**.

III.E.2.2 If a discrepancy report is deemed necessary as required by *Permit Condition III.E.2.1*, the Permittee shall submit such report and reject the waste on the sixteenth (16^{th}) day of the receipt of the waste.

III.E.3 Waste Shipment

The Permittee shall only use properly registered transporters of hazardous waste to remove hazardous waste from the facility, in accordance with **40 CFR Part 262 - Subpart A**.

III.E.4 Un-manifested Waste

For shipments of hazardous waste that arrive at the facility not accompanied by a manifest, a manifested waste report will be prepared in accordance with **40 CFR Part 264.76** and submitted to the Division within fifteen (15) days after receiving the waste.

III.F RECORDKEEPING AND REPORTING

In addition to the recordkeeping and reporting requirements specified elsewhere in this Permit, the Permittee shall comply with the following:

III.F.1 Operating Record

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.73**. The Permittee shall maintain records of all hazardous wastes stored and treated at the facility in accordance with the recordkeeping procedures set forth in **40 CFR Part 264.73**.

III.F.1.1 A description and the quantity of each hazardous waste received and the method(s) and date(s)

of its treatment, storage, and/or disposal at the facility.

III.F.1.2 The location of each hazardous waste within the facility and the quantity. This information must include cross-references to specific manifest document numbers, etc.

III.F.1.3 Records and results of waste characterization and waste analysis performed**.**

III.F.4.4 Summary reports and details of all incidents.

III.F.1.5 Records and results of inspections.

III.F.1.6 Monitoring, testing or analytical data, and corrective action.

III.F.1.7 Notices to generators (off-site facilities).

III.F.1.8 Copies of waste minimization documents required in *Permit Condition V.A.*

III.F.1.10 All closure and all Post-Closure cost estimates.

III.F.1.11 Copy of the notice, and the certification, and demonstration, if applicable, required by the generator or the owner or operator under **40 CFR Part 268**.

III.F.1.12 Manifest system related documents.

III.F.2 Availability, Retention, and Disposition of Records

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.74**.

III.F.3 Annual Report

The Permittee shall comply with the annual reporting requirements set forth under **401 KAR 39:060 Section 5(18)** , the Site Management Plan, and the Environmental Covenant.

III.F.4 Additional Reports

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.77**.

III.G CLOSURE REQUIREMENTS

III.G.1 Closure Performance Standards

The Permittee shall close the facility and/or unit(s) in compliance with all requirements as set forth under **40 CFR Part 264 - Subpart G**, **40 CFR Part 264.178**, **40 CFR Part 264.197**,**40 CFR Part 264.351,** and in accordance with the Closure Plan included in *Attachment I* of this Permit.

III.G.2 Closure Plan and Amendment of Closure Plan

The Permittee shall comply with all requirements and close the facility as set forth under **40 CFR Part 264.112**. The Permittee shall carry out closure as described in the Closure Plan (*Attachment I*). The Permittee shall amend the Closure Plan whenever necessary in accordance with **40 CFR Part 264.112**.

III.G.3 Notification of Closure

The Permittee shall notify the Manager in writing at least forty-five (45) days prior to the date on which the Permittee expects to begin closure. [**40 CFR Part 264.112**]

III.G.4 Time Allowed for Closure

The Permittee shall comply with **40 CFR Part 264.113**. Within ninety (90) days after receiving the final volume of hazardous waste, the Permittee must remove from the facility all hazardous wastes in accordance with the approved Closure Plan (*Attachment I*). All closure activities shall be completed as described in the attached Closure Plan; and within 180 days after receiving the final volume of waste, all equipment and the facility will be decontaminated and washing residues removed.

III.G.5 Decontamination or Disposal of Equipment, Structures, Soils and Others

III.G.5.1 The Permittee shall decontaminate and/or dispose of all contaminated facility equipment, structures, and soils as required by **40 CFR Part 264.114**, the Closure Plan (*Attachment I*) as well as the terms and conditions of this Permit.

III.G.5.2 The Permittee must notify the Manager and the Florence Regional Office within ten (10) working days prior to the beginning of rinsate and/or soil sampling activities.

III.G.6 Certification of Closure

Within sixty (60) days of completion of closure of the unit(s), the Permittee shall submit a Closure Certification and Closure Report that includes, at a minimum, the following information **[40 CFR 264.115]**:

III.G.6.1 An independent Professional Engineer registered in the Commonwealth of Kentucky certified that each hazardous waste management unit or the facility has been closed in accordance with the specifications in the approved Closure Plan as well as the terms and conditions of this Permit, as required by **40 CFR Part 264.115**.

III.G.6.2 Facility processes and waste management.

III.G.6.3 Analysis results, observations, and conclusions.

III.G.6.4 A discussion of the closure process implementation followed for each unit. Include a description of:

III.G.6.4.1 The procedures followed for decontamination of the hazardous waste management unit (including disposition of residues);

III.G.6.4.2 The equipment used for decontamination of the hazardous waste management unit;

III.G.6.4.3 The sampling procedures used (wipe sampling, wastewater, rinsate, concrete chip sampling etc.), equipment used for sampling, drawing of sample locations and cross reference results, analytical procedures and methods used per sampling type, analytical equipment used as well as Chain of Custody;

III.G.6.4.4 The remedial procedures used (if applicable) and equipment used for remediation (if applicable);

III.G.6.4.5 The quality assurance program used;

III.G.6.4.6 Calculations and spreadsheets;

III.G.6.4.7 The procedures and equipment used to prevent hazards and protect field personnel during closure as well as Site Work Zone Management Controls;

III.G.6.4.8 Field notebook notes;

III.G.6.4.9 Drawings and photographs;

III.G.6.4.10 List and description of any deviations and or alterations from the approved Closure Plan;

III.G.6.4.11 Copies of manifest and bill of lading; and

III.G.6.4.12 Recycling and Disposal Certifications.

III.G.7 Survey Plat

The Permittee shall submit a survey plat no later than the submission of certification of closure of each hazardous waste disposal unit, in accordance with **40 CFR Part 264.116**.

III.H POST CLOSURE REQUIREMENTS: RESERVED

III.I FINANCIAL REQUIREMENTS

The Permittee shall comply with all the applicable Financial Assurance requirements in **401 KAR 39:090 Section 7**.

III.I.1 Cost Estimate for Facility Closure & Corrective Action

The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility

in accordance with the requirements in **40 CFR Part 264.142** as well as the cost for selected remedies for corrective action in accordance with the requirements of **40 CFR Part 264.101**

III.I.1.1 Most Recent Cost Estimates

III.I.1.1.1 The Permittee's most recent closure cost estimate, prepared in accordance with **40 CFR Part 264.142** is specified in Attachment I of this Permit.

III.I.1.1.2 The Permittee's most recent corrective action cost estimate, prepared in accordance with **40 CFR Part 264.101** is specified the Site Management Plan (incorporated herein as Appendix 11.).

III.I.1.2 Cost Estimate Annual Adjustment

The Permittee must adjust the closure cost estimate for inflation before May 1 of each calendar year, as specified in **40 CFR Part 264.142**.

III.I.1.3 Cost Estimate Modification

The Permittee must revise the cost estimates whenever there is a change in the facility's Closure Plan and/or Site Management Plan as appropriate, as required by **40 CFR Part 264.142 and 40 CFR 264.101**.

III.I.1.4 Closure Cost Estimate Recording

The Permittee must keep at the facility the latest closure and corrective action cost estimates as required by **40 CFR Part 264.142** and **40 CFR Part 264.101**, respectively

III.I.2 Financial Assurance and Liability Requirements

III.I.2.1 Closure: The Permittee shall comply with all applicable requirements as set forth under **40 CFR Part 264 – Subpart H**.

III.I.2.1.1 The Permittee shall demonstrate continuous compliance with the requirements under **40 CFR Part 264.143**, by providing documentation of financial assurance for at least the amount of the current cost estimate. In addition to **40 CFR Part 264.143(e)(1)**, each insurance policy providing primary coverage shall be issued by an insurer that is authorized to transact insurance in Kentucky, except if **KRS 304.11-030** establishes otherwise. [**401 KAR 39:090 Section 1(2)**]

III.I.2.1.2 The Permittee shall demonstrate continuous compliance with the requirements of **40 CFR Part 264.147** and the documentation requirements of **40 CFR Part 264 – Subpart H** including the requirements to have and maintain liability coverage for

sudden and accidental occurrences in the amount of at least one million dollars ($1,000,000) per occurrence with an annual aggregate of at least two million dollars ($2,000,000), exclusive of legal defense costs.

III.I.2.1.3 The Permittee shall demonstrate continuous compliance with the requirements of **40 CFR Part 264.147** and the documentation requirements of **40 CFR Part 264 – Subpart H** including the requirements to have and maintain liability coverage for non-sudden accidental occurrences in the amount of at least three million dollars ($3,000,000) per occurrence with an annual aggregate of at least six million dollars ($6,000,000), exclusive of legal defense costs.

III.I.2.1.4 The Permittee must demonstrate compliance with the financial assurance requirements in **40 CFR Part 264.147**, in effect during the life of this Permit. In addition to **40 CFR Part 264.147(a)(1)(ii)** and **40 CFR Part 264.147(b)(1)(ii)**, each insurance policy providing primary coverage shall be issued by an insurer that is authorized to transact insurance in Kentucky, except if **KRS 304.11-030** establishes otherwise. [**401 KAR 39:090 Section 1(2)**]

III.I.2.2 Corrective Action: The permittee shall comply with the requirements of **40 CFR Part 264.101** to provide financial assurance of selected remedies per the Site Management Plan, incorporated into this permit as Appendix 11.

III.I.2.3 Incapacity of owners or operators, guarantors, or financial institutions.

III.I.2.3.1 In the event the Permittee is named as a debtor in Title 11 Bankruptcy proceedings, the Permittee must notify the Division within ten (10) days after the commencement of those proceedings as required by **40 CFR 264.148(a)**. If financial assurance is satisfied by a corporate guarantee, the guarantor must make such a notification if they are named as a debtor.

III.I.2.3.2 When financial assurance is fulfilled by trust fund, surety bond, letter of credit, or insurance policy, in the event of bankruptcy of the trustee or issuing institution, or the event of the trustee or issuing institution losing, by suspension or revocation, the authority to act as trustee or to issue surety bonds, letters of credit, or insurance policies, the Permittee will be deemed to be without the required financial assurance and must obtain alternate means of financial assurance within sixty (60) days.

III.I.3 Cost Estimate for Facility Post-Closure: RESERVED

III.J CONSTRUCTION COMPLIANCE SCHEDULE FOR PROPOSED UNITS: RESERVED

III.K CONTAINER REQUIREMENTS

III.K.1 The Permittee may operate the units and processes described in *Permit Condition III.K.2* which are subject to the terms and conditions of this Permit. Operation of any process or unit not mentioned in *Permit Condition III.K.2 (other than designated less than 90 day storage)*, operation of any process in a unit or area other than that for which the process is listed, or exceedance of any capacity listed therein, for the storage, treatment or disposal of hazardous waste or other management activity unless it is specifically described in this Permit or otherwise authorized by the Cabinet is prohibited. Any modifications to a unit or activity authorized by this Permit require the written approval of the Division in accordance with the permit modification procedures set forth in *Permit Condition II.B.1* and *Permit Condition II.B.4*.

III.K.2 Specific Permitted Container Storage Area(s)

III.K.2.1 Container Storage Area: B-64

Location:
B-64 is located on the south of the facility between the train rails on the east and the road on the west. (See *Attachment D* Figure D-2.1b).

Activity Description: Storage of liquid and solid hazardous waste. Storage on Pad B-64 shall not exceed 37,400 gallons.

Physical Description: Pad B-64, which is a reinforced curbed concrete pad, measures 90 feet 9 inches by 40 feet 1 inch and is divided into two separate containment compartments, 9S01 and 9S02. The surface of the pad is concrete with an applied epoxy coating. The coated concrete pad is sufficiently impervious to leaks, spills, and accumulated precipitation until the collected material is detected and removed. Both compartments are designed to contain 10 percent of the maximum volume of stored free liquids, plus the accumulation of rain from a 25-year, 24-hour storm event. Pad B-64 is constructed of 3000 psi concrete and is 8 inches thick.

Secondary Containment System:
Total, maximum storage volume in fifty-five gallon drum equivalents is 680 drums which equals 37,400 gal. Secondary containment maximum capacity is 7,420 gal for 9S01 and 14,878 gal for 9S02.

III.K.2.2 Container Storage Area: B-65

Location:
B-65 is located on the south of the facility west of the train rails and the road and immediately south of the fire pond (See *Attachment D* Figure D-2.1b).

Activity Description: Storage of liquid and solid hazardous waste. Storage on Pad B-65 shall not exceed 142,890 gallons.

Physical Description: Pad B-65 is a reinforced concrete "L" shaped pad 55 feet wide with one leg 200 feet long and the other leg 230 feet long. Pad B-65 is divided into 8 separate compartments, 9S10-9S80. The surface of the pad is concrete and sufficiently impervious to all leaks and collected precipitation. Pad B-65 is constructed of a minimum 4500-psi or greater concrete and is 8 inches thick. The 8 compartments are designed to contain 10 percent of the maximum volume of stored free liquids plus rainfall. The base of the pad is also free of cracks or gaps that would compromise the integrity of the secondary containment. Curb heights around the inside perimeter of the pad are variable, and are shown in *Attachment D* Figure D-1.5.

Secondary Containment System:
Total, maximum storage volume in fifty-five gallon drum equivalents is 2598 drums which equals 142,890 gal. Secondary containment maximum capacity is 84,399 gallons divided among the following compartments. Storage within a single compartment shall not exceed ten times the containment of that compartment

A. 9S10: Total secondary containment capacity 7,229 gal.
B. 9S20: Total secondary containment capacity 23,933 gal.
C. 9S30: Total secondary containment capacity 7,084 gal.
D. 9S40: Total secondary containment capacity 13,884 gal.
E. 9S50: Total secondary containment capacity 13,195 gal.
F. 9S60: Total secondary containment capacity 6,564 gal.
G. 9S70: Total secondary containment capacity 6,747 gal.
H. 9S80: Total secondary containment capacity 5,763 gal.

III.K.2.3 Tank Truck Storage Pad / Truck Unloading Ramp: B-65

Location:
The tank truck storage pad / truck unloading ramp is located on the south of the facility between the train rails on the east and the road on the west. (See *Attachment D* Figure D-2.1b).

Activity Description: Storage of liquid and solid hazardous waste. Storage on the tank truck unloading ramp shall not exceed one (1) tank truck containing 6,500 gallons.

Physical Description: The tank truck unloading ramp is 44 feet long and 11.5 feet wide, as shown on Figure D-1.5. The ramp is designed to contain spills and leaks from unloading operations. Containment of the full capacity of a tank truck plus rainfall is provided because the ramp containment area drains to sump SU-052020 as shown in *Attachment D* Figure D-1.5. The base of the pad is also free of cracks or gaps that would compromise the integrity of the secondary containment.

Secondary Containment System:
Total, maximum storage volume is 6,500 gallons. Secondary containment maximum capacity is 32,480 gallons.

III.K.3 Storage in Containers

III.K.3.1 The Permittee may store a total volume of 180,290 gallons (equivalent to approximately 3278 fifty-five gallon drums) of hazardous waste at any time in a total of two (2) container storage areas and one (1) tank truck of 6,500 gallons at one (1) truck unloading ramp in accordance with the terms and conditions of this Permit, and the information provided in *Attachment D*. [**40 CFR Part 264 - Subpart I**]

III.K.3.2 The Permittee shall only store those hazardous wastes specified in *Permit Condition III.A.4* in the container storage areas identified in *Permit Condition III.K.2.*

III.K.3.3 The maximum combined quantity of hazardous and non-hazardous waste stored in a given area shall not exceed ten (10) times the capacity of the containment system for that area. An individual container shall not be stored in an area with a volume that exceeds the capacity of the containment system for that area.

III.K.3.4 The Permittee shall construct, operate, maintain, and inspect the container storage areas specified in *Permit Condition III.K.2* and as specified in *Attachment D* of this Permit.

III.K.3.5 For compliance with the capacity restriction of this Permit, each container will be considered to be storing an amount of hazardous waste equal to its capacity, regardless of the actual quantity stored in the container. Any non-hazardous waste, [i.e. exempt transfer facility waste, lead-acid battery waste or universal waste] that is stored in a designated hazardous waste storage area as provided by this Permit shall be subject to the conditions of this Permit, including, but not limited to, volume calculations, compatibility and inspections.

III.K.3.6 The Permittee is prohibited from storage of hazardous waste in containers that do not meet performance packaging standards as specified in **49 CFR Part 178 - Subpart L** or other applicable DOT requirements.

III.K.3.7 Opening of drums and/or transfer of drum or container contents must occur only within areas with secondary containment system.

III.K.3.8 Non-hazardous wastes stored in hazardous waste storage areas identified in *Permit Condition III.K.2.* and other containerized materials that are stored in the hazardous waste container storage units/areas identified in *Permit Condition III.K.2.* are also subject to the terms of this Permit.

III.K.3.8.1 The Permittee may store containers of products or non-hazardous materials or waste in container storage areas identified in *Permit Condition III.K.2* that meet the following requirements:

III.K.3.8.1.1 The containers of products or non-hazardous materials/waste shall meet performance packaging standards as specified in **49 CFR Part 178 - Subpart L** and other applicable DOT requirements.

III.K.3.8.1.2 The Permittee shall conduct necessary testing and analysis in

accordance with the Waste Analysis Plan, *Attachment C* of this Permit, in order to ensure that materials stored in Permitted container storage areas are compatible.

III.K.3.8.1.3 The Permittee shall ensure that any products or non-hazardous wastes stored in a permitted container storage area must be counted toward the total permitted container storage volume. The Permittee shall maintain inventories using the facility's computerized waste tracking system as described in Attachment D to ensure that permitted storage capacities are not exceeded (*Permit Condition III.K.2*).

III.K.3.8.1.4 The Permittee shall comply with conditions set under *Permit Condition III.K* and all applicable requirements of this Permit while storing containers of products or non-hazardous materials/waste in permitted container storage areas.

III.K.4 Treatment in Containers [Reserved]

III.K.5 Condition of Containers

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.171**, to ensure that all hazardous waste containers are in good condition. If a container holding hazardous waste is not in good condition (e.g. severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this Permit. [**40 CFR Part 264 - Subpart I**]

III.K.6 Compatibility of Waste with Containers

The Permittee shall comply with all requirements set forth under **40 CFR Part 264.172**, to ensure that all containers used to store hazardous waste in the storage area will not react or be incompatible with the material being placed in the drum.

III.K.7 Management of Containers

The Permittee shall manage and inspect the containers in accordance with **40 CFR Part 264.173** and **264.174** as well as according to the container management system, and container layout and configuration delineated in *Attachment D*, illustrated in Figures D-1.2 and D-1.3. Containers will not be stacked more than two (2) high. Only stable containers and containers with no physical damage maybe stacked. The Permittee shall keep all containers closed during storage, except when it is necessary to add or remove waste, and shall not open, handle, or store containers in a manner which may rupture the container or cause it to leak.

III.K.8 Inspection Schedules and Procedures

The Permittee shall inspect the container storage area(s), in accordance with **40 CFR Part 264.174** and the Inspection Schedule, *Attachment F*. The Permittee shall also document these inspections and shall maintain the inspection forms in accordance with the requirement of **40 CFR Part 264.174** and inspection

procedures in *Attachment F* of this Permit. The Permittee shall stage/store the containers so that their labels are fully visible and easily read. The Permittee shall also inspect all containers at the time of the container's arrival at the facility to ensure that the containers are in good condition.

III.K.9 Containment System

The Permittee shall maintain the containment system in accordance with the requirements of **40 CFR Part 264.175**, and as specified in the *Attachment D* and *F* of this Permit. The Permittee shall ensure that the containment system for each container storage area identified in *Permit Condition III.K.2* is free of cracks and gaps. The Permittee shall maintain an impervious coating which is free of cracks, gaps, or other deterioration on B-64.

Any accumulated liquids of unknown sources shall be containerized and sampled, and the analytical data will be used to determine appropriate disposal options.

III.K.10 Recordkeeping

III.K.10.1 The Permittee shall place the results of all waste analyses and trial tests as well as other documentation showing compliance with the requirements of *Permit Conditions III.B.2*, *Permit Condition III.K*, **40 CFR Part 264 – Subpart B** and **40 CFR Part 264 - Subpart I** in the facility's Operating Record. [**40 CFR Part 264.73**].

III.K.10.2 The Permittee shall enter records of all treatment activities into the Operating Record for each batch of waste treated, including the following,:

1. EPA waste codes and descriptions,
2. quantities,
3. method(s) of treatment, and
4. date(s) of treatment.

III.K.10.3 After each shipment of hazardous waste is received and has been placed into storage, the Permittee must log into a container storage area daily report the following information:

III.K.10.3.1 Number of containers in the storage area;

III.K.10.3.2 Waste type and description;

III.K.10.3.3 Date waste is placed into the storage area;

III.K.10.3.4 Waste location (by storage area);

III.K.10.3.5 Date waste is removed from the storage area;

III.K.10.3.6 Permittee load number and/or container sequence number;

III.K.10.3.7 Generator's name; and

III.K.10.3.8 Waste Stream Identification Number (WSID).

III.K.11 Special Requirements for Ignitable or Reactive Wastes

III.K.11.1 When storing ignitable or reactive wastes, the Permittee shall comply with the requirements of **40 CFR Part 264.17**, **40 CFR Part 264.176**, and according to *Attachment D*. Any activity that will require compliance with **40 CFR Part 264.17**, shall not be allowed without specific investigations and appropriate measures being taken to prevent fires and explosions. These investigations and preventive measures shall be documented and maintained in the Operating Record as required in *Permit Condition III.F.1*.

III.K.11.2 The Permittee shall not place containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line. [**40 CFR Part 264.176**]

III.K.11.3 The Permittee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and follow the procedures specified in *Attachment D*. [**40 CFR Part 264.17** and **40 CFR Part 264.176**]

III.K.11.4 The Permittee must provide electrical grounding for all containers and transport vehicles during all operations involving the handling of ignitable or reactive wastes.

III.J.11.5 The Permittee must provide, and require the use of, spark proof tools during all operations involving the handling of all ignitable or reactive wastes.

III.K.11.6 The Permittee must prohibit smoking and open flames in each area where ignitable, reactive, or incompatible hazardous wastes are managed and must post appropriate warning signs.

III.K.12 Special Requirements for Incompatible Wastes

III.K.12.1 The Permittee shall not place incompatible wastes, or incompatible wastes and materials, in the same container, unless **40 CFR 264.17(b)** is complied with. [**40 CFR Part 264.177**]

III.K.12.2 The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material. [**40 CFR Part 264.177**]

III.K.13 Special Requirements for Restricted Wastes

The storage of hazardous wastes restricted from land disposal under **40 CFR Part 268** is prohibited unless the requirements of **40 CFR Part 268** are met.

III.K.14 Closure

The Permittee shall close each hazardous waste container storage unit identified in *Permit Condition III.K* in accordance with *Permit Condition III.G*, **40 CFR Part 264.178** and the Closure Plan in *Attachment I* of this Permit.

III.K.15 Air Emission Standards

The Permittee shall manage all hazardous waste placed in container storage areas in accordance with the requirements of **40 CFR Part 264.179** and Part VII of this Permit.

III.L TANK SYSTEM REQUIREMENTS

All hazardous waste equipment associated with tank systems are aboveground. An underground line was formerly present which connected B64 to the tank system. The underground line was replaced with an aboveground line as a result of permit modification #23, approved on April 25, 2014.

The location of tanks and other hazardous waste units are shown in *Attachment D* Figures D-2.1a and D-2.1b.

III.L.1 The Permittee may operate the units and processes described in *Permit Condition III.L.2*, which are subject to the terms and conditions of this Permit. Operation of any process or unit not mentioned in *Permit Condition III.L.2,* operation of any process in a unit or area other than that for which the process is listed, or exceedance of any capacity listed therein, for the storage, treatment or disposal of hazardous waste is prohibited.

III.L.2 Specific Permitted Tank Farm Units

III.L.2.1 Hazardous Waste Tank Treatment (T01): Hydropulper (HY-052020)

The hydropulper (HY-052020) is a high speed mixing vessel that was installed in 1978. The mixing capacity of the hydropulper is approximately 750 gallons even though its total volume is equivalent to about 1500 gallons. The hydropulper receives non-solvent wastes on a batch basis to be processed mechanically for tank treatment. The hydropulper is a treatment only tank. Table D-2.5 summarizes the design parameters of this treatment unit. The unit is a vessel with a lid that has a maximum height of liquids of 5ft. 7in. A cover and closed vent system were added in 2003 to control emissions from the hydropulper. **The hydropulper is a treatment only tank and is not used for storage of wastes.**

Overfilling controls for the tank consist of high alarms and high level automatic shutoff.

Location:
The hydropulper (HY-052020) is located in B-52 building west containment pad of the Facility (See Drawing 052020-1-014).

Activity Description:
Hydropulper (HY-052020) is an aboveground, high speed mixer tank that is used to homogenize and blend both hazardous and non-hazardous waste slurries. The hydropulper receives non-solvent wastes on a batch basis to be processed mechanically for tank treatment. The hydropulper is a treatment only tank.

The hydropulper is charged by two methods.

1. The pump feed system for the treatment tank includes feeds from:

    - The wastewater treatment plant primary clarifier (aka, Lamella separator, via PU052012E)
    - TK067012 (wastewater treatment plant waste activated sludge)
    - Filter press wastewater (via PU-052030C)
    - The slurry unloading pumps PU-052012A and B (from containers)
    - The unloading pumps at the tanker pad PU-052003A and B (from containers)
    - Secondary containment sumps.

2. Containers are also mechanically hoisted and dumped into the hydropulper with a lift installed in 2003. These wastes can include, but are not limited to such items as, filter press solids from the wastewater treatment facility, recovery still pot bottoms, used filter papers, and miscellaneous solids. The feed operation is managed by the operator and can involve a mix of container "dumps" directly into the hydropulper and operator-controlled pump feeds from containers and tanks (e.g., permitted, <90 day, wastewater treatment plant). The hydropulper is filled to approximately 50% of the 1500 gallon capacity. The agitator, which is in the bottom of the unit, is then initiated. This agitator blends the material into a homogeneous mixture. This mixture is then pumped to a slurry tank for storage. Once the contents of the hydropulper are emptied, the sequence of manual filling the hydropulper, blending, and emptying is repeated. This process is continued until the slurry tank is almost filled. At this time the hydropulper is rinsed and the rinse water is pumped to the slurry tank.

Physical Description:
The hydropulper is a 304 stainless steel tank, 130 inches in height and 84 ¾ inches in diameter. See Table D-2.5 for physical description and general operation parameters. Its capacity as a vessel is approximately 1500 gallon. Its capacity in mixing mode is 750 gallons.

Secondary Containment System:
The secondary containment for HY-052020 is provided by the hazardous waste containment area structure and sumps (SU-052020). Containment calculations are the same as those presented for tanks TK-052009A and TK-052009B (see *Attachment D* Appendix D-2).

In 2003, the hydropulper was upgraded by adding a fixed cover with a hopper to enclose the top of the unit. The approximately seven foot diameter hopper is fitted with a 38 inch diameter slide gate valve that seals the hopper opening when waste is not being charged. The hydropulper is also maintained under slight vacuum by an induced draft fan that pulls vapors from the hydropulper, through closed piping and an in-line knock-out pot, and ultimately to the IR074001 Thermal Oxidizer. The upgrades also included high level alarms and interlocks to the hydropulper and an area-mounted lower explosion limit meter. A new stairway and platform were also added to improve personnel access and safety. There is no man way on the hydropulper.

For safety reasons, solvents are no longer charged to the hydropulper, though some materials charged to the hydropulper may contain a low percentage of a residual solvent. To prevent a buildup of an explosive vapor concentration in the hydropulper, two LEL meters with 100 ppm setpoints are also in place. If the 100 ppm threshold is detected, hydropulper feed and mixing is automatically cut off, and nitrogen automatically purges the headspace to the closed vent system and thermal oxidizer. Loading cannot resume due to these interlocks until the LEL meters measure less than 100 ppm.

The hydropulper knock-out pot (TK-052020A) is a 200-gallon vessel and is designed to collect entrained liquids or solids to protect the downstream blower and control equipment. Under the normal operating conditions of the hydropulper no liquid accumulates in the knockout pot. The vessel is considered ancillary equipment to the permitted hydropulper. If liquid accumulates in the knockout pot due to an upset condition, the liquid will be collected in a container and returned to the hydropulper. There is a man way on the knockout pot.
Attachment M discusses the hydropulper vent control system used to comply with RCRA Subpart CC. The hydropulper, a Tank Control Level 1 vessel, is equipped with an integral lid system that collects vapors from process operations. Such emissions are routed to the thermal oxidizer, using the Tank Control Level 2 technology option for compliance with Tank Level 1 requirements.

III.L.2.2 Solvent Storage, Blending, and Feed Tank TK-052004A

TK-052004A is a 12,000 gallon solvent storage, blending, and feed tank installed in 2007. This tank was installed under a permit modification approved by the KDEP on October 5, 2007 as "replacement in-kind". Table D-2.2 summarizes the significant design parameters of the tank.

Overfilling controls for the tank consist of high alarms and high and low level automatic shutoffs of all feeds. A nitrogen blanket (0.2 psi) is used to minimize emissions during loading, unloading, and blending operations. The tank has pressure relief devices and flame arrestor.

The feed system includes feeds from:

- The solvent recycle pump PU- 052004A (to recirculate tank contents)
- The solvent feed pumps PU-052004B and C (feed to and from incinerator)
- The solvent unloading pumps PU-052003A and B (from containers and tank trucks)
- The waste benzene tank TK- 017009 (a <90-day non-permitted tank).

The tank has a man way for use in inspections and maintenance procedures.

The secondary containment for TK-052004A is a concrete structure as shown in *Attachment D* Figure D-2.3. *Attachment D* Appendix D-2 presents the containment calculations for the system. The secondary containment for TK-052004A is more than sufficient to contain 100% of the volume of the tank plus run-off from a 25-year, 24-hour storm event.

III.L.2.3 Hazardous Slurry Tanks TK-052009A & TK-052009B

TK-052009A and TK-052009B are slurry storage and blending tanks (19471 gallons each) that were installed in 2011. These two (2) tanks were installed under a permit modification approved by the KDEP on December 3, 2010 as "replacement in-kind". The capacity of each of these tanks is 19,471 gallons. Table D-2.3 summarizes the significant design parameters of the tanks.

The overfilling controls consist of a high alarm and a high and low level automatic shut-off system on each tank.

The feed system includes feeds from:

- The hydropulper
- The wastewater treatment plant primary clarifier (aka, Lamella separator, via PU052012E)
- The slurry feed/recycle pumps PU-052009A and C (feed to and from the incinerator, and to recirculate slurry between the three slurry tanks)
- The slurry unloading pumps PU-052012A and B (from containers)
- Benzene tank TK-017009 (<90 day non-permitted tank)
- Secondary containment sumps

There are no automatic bypass systems. The tanks operate at ambient temperature and pressure.

The secondary containment system consists of the general hazardous waste management drainage area and the hazardous waste sump and is shown in Figure D-2.4. Containment calculations are shown in *Attachment D* Appendix D-2.

III.L.2.4 Hazardous Slurry Tank TK-052010

TK-052010 is a 19,471 gallon slurry storage and blending tank installed in 2017. This tank was installed under a permit modification approved by the KDEP on June 22, 2017 as "replacement in-kind". Table D-2.4 presents a summary of the design parameters for the tank.

The maximum allowable height of liquid in the tank is 23 feet. The overfilling controls for the tank consist of a high level alarm and a high and low level shut-off.

The feed system for the tank includes feeds from:

- The hydropulper
- The wastewater treatment plant primary clarifier (aka, Lamella separator, via PU052012E)
- The slurry feed/recycle pumps PU-052010A and B (feed to and from the incinerator, and to recirculate slurry between the three slurry tanks)
- The slurry unloading pumps PU-052012A and B (from containers) • Benzene tank TK-017009 (<90 day non-permitted tank) • Secondary containment sumps.

A man way is provided for inspection and maintenance procedure.

Secondary containment (see *Attachment D* Figure D-2.4) is provided by the general hazardous waste management drainage area and the hazardous waste sump (SU-5220). Containment calculations are the same as those presented for tanks TK-052009A and TK-052009B (See *Attachment D* Appendix D-2).

III.L.3 Storage in Tanks

III.L.3.1 The Permittee may store a total maximum volume of 70,414 gallons of hazardous waste at any time in a total of four (4) storage tanks in accordance with the terms and conditions of this Permit, and the information provided in *Attachment D*. [**40 CFR Part 264 - Subpart J**]

III.L.3.2 The Permittee shall only store those hazardous wastes specified in *Permit Condition III.A.4* in the tanks identified in *Permit Condition III.L.2.*

III.L.3.3 The Permittee shall store only those hazardous waste which are compatible with the construction material of the tank(s), in accordance with the terms and conditions of this Permit, the information provided in *Attachment D*, pursuant to **40 CFR Part 264 - Subpart J**, and specifications in *Permit Condition III.L.2*.

III.L.3.4 The Permittee shall only store hazardous waste in a tank or tank farm, whichever is applicable, with a secondary containment system that is designed or operated to contain 100 percent of the capacity of the largest tank within its boundary and the precipitation from a 25 year/24 hour storm event.

III.L.3.5 The Permittee shall construct, operate, maintain, and inspect the tanks specified in *Permit Condition III.L.2* and as specified in *Attachment D* of this Permit.

III.L.3.6 Hazardous waste loading onto and unloading from the tanks in the tank farm shall only be conducted within the area of the secondary containment system identified in *Permit Condition III.L.2*.

III.L.4 Treatment in Tanks

III.L.4.1 The Permittee shall ensure that the structural integrity of tanks and processes of treatment are in accordance with *Attachment D* of the Permit and **40 CFR Part 264 - Subpart J**.

III.L.4.2 The Permittee shall not substitute dilution of chemicals for treatment, except as allowed by **40 CFR Part 268.3**.

III.L.4.3 The Permittee is prohibited from treating hazardous waste that is not identified in *Permit Condition III.A.4*.

III.L.4.4 The Permittee shall manage all treatment residues in accordance with all applicable provisions of **40 CFR Part 260** through **270**.

II.L.4.5 The Permittee shall treat only those hazardous wastes which are compatible with the construction material of the tank(s), in accordance with the terms and conditions of this Permit, the information provided in *Attachment D*, pursuant to **40 CFR Part 264 - Subpart J**, and specifications in *Permit Condition III.L.2*.

III.L.4.6 If applicable, the Permittee shall ensure that all chemical reactions have sufficiently occurred to prevent subsequent uncontrolled reactions before the treatment process is stopped.

III.L.4.6 The Permittee shall operate the Hydropulper in accordance with the requirements of Permit Conditions III.Q.4.4 and III.Q.4.5.

III.L.5 Design of Tanks

The Permittee shall design, construct, and maintain all tanks as required by **40 CFR Part 264.191** through **264.194**, and as specified in the engineering design drawings in *Attachment D.* The shell thickness shall not be allowed to be less than the minimum as specified in *Attachment D*. A tank shell must be replaced, repaired or decommissioned if the minimum shell thickness is found to be less than that stated in *Attachment D*.

III.L.6 Design and Installation of New Tank Systems or Components

The Permittee shall comply with all the applicable requirements in **40 CFR Part 264.192**.

III.L.6.1 The Permittee must obtain and submit to the Division a written assessment, reviewed and certified by an independent Professional Engineer registered in the Commonwealth of Kentucky attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment must show that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. This assessment must include, at a minimum, the applicable information in **40 CFR Part 264.192(a)(1)** through **(a)(5)**.

III.L.6.2 Prior to placing a new tank system or component (i.e., tank, secondary containment, etc.) in use, the Permittee shall have an independent Professional Engineer registered in the Commonwealth of Kentucky inspect the tank system to assess any inadequate construction, or damage which may occurred during installation of the tank system or components, as required by **40 CFR Part 264.192**.

III.L.6.3 The Permittee shall remedy all discrepancies (e.g. structural damage or inadequate construction/installation) prior to placing the tank system in use as specified in **40 CFR Part 264.192**.

III.L.6.4 The Permittee shall test all new tanks and ancillary equipment for tightness prior to placing these systems in use as required by **40 CFR Part 264.192**. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank being placed in use.

III.L.6.5 Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction, as required by **40 CFR Part 264.192**.

III.L.7 Operating Requirements

III.L.7.1 The Permittee shall comply with all the requirements set forth under **40 CFR Part 264.194**, and according to *Attachment D* of this Permit. The Permittee shall not place hazardous wastes or treatment reagents in the tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

III.L.7.2 The Permittee shall prevent spills, releases and/or overfilling of tanks as required by **40 CFR Part 264.194**, by the methods specified in *Attachment D* and the terms and conditions of this Permit.

III.L.7.3 The Permittee shall manage the tanks according to the conditions and the design standards specified in *Attachment D* of this Permit, as specified in **40 CFR Part 264.194** and **264.196**.

III.L.7.4 The Permittee shall manage the secondary containment systems for the tank systems in accordance with *Attachment D* of this Permit, and **40 CFR Part 264.193**. The Permittee shall maintain an impervious coating which is free of cracks, gaps, or other deterioration on all containment system surfaces which may be exposed to hazardous wastes or hazardous constituents (or releases of hazardous constituents).

III.L.7.5 The Permittee shall maintain firefighting capabilities in accordance with **40 CFR Part 264.32**.

III.L.7.6 The Permittee shall clearly mark each tank containing land disposal restricted waste with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or record such information for each tank system in the facility Operating Record**.** [**40 CFR Part 268.50**]

III.L.7.7 Prior to adding to the contents of any tank, the tank inventory control logs must be reviewed to ensure that the tank is operating according to design specifications. Incompatible waste must be stored as specified in *Permit Condition III.L.10.*

III.L.7.8 Loading and unloading of transportation vehicles to or from the tanks must be conducted at locations where secondary containment is capable of minimizing the release of spilled material to the environment.

III.L.7.9 Upon completion of the waste transfer from transportation vehicles per *Condition III.L.7.8*, the valves must be closed and all hoses be disconnected over a portable container to collect drippings. The storage tank must be gauged and the tank's valve locked.

III.L.7.10 Smoking must be prohibited and "No Smoking" signs must be placed in clear view in the storage tank areas. Open flames and heat sources must be prohibited in the storage tank areas, unless these areas are cleared of all ignitable wastes, residues, and vapors.

III.L.8 Response to Leaks or Spills

In the event of a leak or a spill from the tank system or from a secondary containment system, or if a system becomes unfit for continued use, the Permittee must remove the system from service immediately and must satisfy the requirements in **40 CFR Part 264.196**.

For all major repairs to eliminate leaks or restore the integrity of the tank system, the Permittee must obtain a certification from an independent qualified Professional Engineer registered in the Commonwealth of Kentucky that the repaired system is capable of handling hazardous wastes without release for the intended life of the system before returning the system to service. Examples of major repairs are: installation of an internal liner, repair of a ruptured tank, or repair or replacement of a secondary containment vault.

III.L.9 Inspections

III.L.9.1 The Permittee shall inspect each tank system, including but not limited to ancillary equipment and secondary containment as well as the area surrounding each tank as specified in *Attachment D* and *Attachment F* and in accordance with the requirements of **40 CFR Part 264.195**.

III.L.9.2 The Permittee shall follow an Inspection Schedule in accordance with **40 CFR Part 264.195** and as specified in *Attachment F* of this Permit.

III.L.9.3 In addition to the above referenced Inspection Schedule, the Permittee shall record all inspections in an inspection log, such as the examples included in *Attachment F* of this Permit. The log must contain, at minimum, date and time of the inspection, name of the inspector, observation notations, date and nature of any repairs or remedial actions, and any corrective action needed.

III.L.9.4 At a minimum the Permittee shall inspect the following components of the tank system at least once each day:

III.L.9.4.1 Above ground portions of the tank system to detect corrosion or releases of waste; [**40 CFR Part 264.195**]

III.L.9.4.2 Data gathered from monitoring and leak detection equipment to ensure that the tank system is operating according to its design specifications; and [**40 CFR Part 264.195**]

III.L.9.4.3 Construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, to detect erosion or signs of release of hazardous waste (e.g., wet spots, dead vegetation, etc.). [**40 CFR Part 264.195**]

III.L.9.5 The Permittee shall remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action shall be taken immediately.**[40 CFR Part 264.15]**

III.L.9.6 All the tanks must be emptied and inspected for signs of deterioration and corrosion as consistent with Attachment F (Section F of the approved Permit Application).

III.L.9.7 If any testing indicates that the tank shell or bottom thickness is less than the minimum allowed under the test method, the Permittee shall initiate procedures to replace, repair or close the tank.

III.L.9.8 The Permittee shall inspect the overfill controls, daily, in accordance with the schedule in *Attachment F*. [**40 CFR Part 264.195**]

III.L.9.9 The Permittee shall inspect tanks for corrosion and erosion consistent with Attachment D, D-2a(2) and D-2b(2) and Attachment F. [**40 CFR Part 264.195**]

III.L.10 Recordkeeping and Reporting

III.L.10.1 The Permittee shall report to the Manager, within 24 hours of detection, when a leak or spill occurs from the tank system or secondary containment system to the environment. [**40 CFR Part 264.196**]. A leak or spill of one pound or less of hazardous waste that is immediately contained and cleaned-up need not be reported. [**40 CFR Part 264.196**]. Releases that are contained within a secondary containment system need not be reported.

III.L.10.2 Within thirty (30) days of detecting a release to the environment from the tank system or secondary containment system, the Permittee shall report the following information to the Manager: [**40 CFR Part 264.196**]

III.L.10.2.1 Likely route of migration of the release;

III.L.10.2.2 Characteristics of the surrounding soil (including soil composition, geology, hydrogeology, and climate);

III.L.10.2.3 Results of any monitoring or sampling conducted in connection with the release.

III.L.10.2.4 If the Permittee finds it will be impossible to meet this time period, the Permittee should provide the Manager with a schedule of when the results will be available.

III.L.10.2.5 This schedule must be provided before the required thirty (30) day submittal period expires;

III.L.10.2.6 Proximity of downgradient drinking water, surface water, and populated areas; and

III.L.10.2.7 Description of response actions taken or planned.

III.L.10.3 The Permittee shall submit to the Manager all certifications of major repairs to correct leaks within seven (7) days after returning the tank system to use. [**40 CFR Part 264.196**]

III.L.10.4 The Permittee shall obtain, and keep on file at the facility, the written statements by those persons required to certify the design and installation of the tank system. [**40 CFR Part 264.196**]

III.L.10.5 The Permittee shall keep on file at the facility the certifications of major repairs. [**40 CFR Part 264.196**]

III.L.10.6 The Permittee must document compliance with *Permit Condition III.L.5* in the Operating Record of the facility.

III.L.10.7 For each permitted tank, the Permittee must document in the Facility Log the following information on a daily basis:

III.L.10.7.1 The quantity of each waste that was added or removed;

III.L.10.7.2 The EPA hazardous waste number of the waste material transferred;

III.L.10.7.3 Any additional information or comments concerning waste compatibility and/or the processing of the waste necessary for safe operation of the tank;

III.L.10.7.4 The tank volume after the waste transfer, how it was gauged, and a verification that overfilling control equipment is properly working; and,

III.L.10.7.5 Proper operation of the level control devices/equipment.

III.L.10.8 For each permitted tank treatment activities, the Permittee shall enter records of all hazardous waste numbers and descriptions, quantities, method(s) of treatment, and date(s) of treatment, into the Operating Record for each batch of waste treated.

III.L.11 Special Requirements for Ignitable or Reactive Wastes

III.L.11.1 The Permittee shall not place ignitable or reactive waste in a tank unless the procedures described in **40 CFR Part 264.198** are followed. Compliance with these requirements shall be documented through *Attachment C*, and *Attachment D* of this Permit.

III.L.11.2 The Permittee shall maintain buffer zones betweenthe tanks and any public ways, streets, alleys, or adjoining property lines as required by **40 CFR Part 264.198**.

III.L.12 Special Requirements for Incompatible Wastes

III.L.12.1 The Permittee shall not place incompatible wastes, or incompatible wastes and materials, in the same tank system, unless **40 CFR 264.17(b)** is complied with. [**40 CFR Part 264.199**]

III.L.12.2 The Permittee shall not place hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless **40 CFR 264.17(b)** is complied with. [**40 CFR Part 264.199**]

III.L.13 Special Requirements for Restricted Wastes

The storage or treatment of hazardous waste in any of the tanks identified in *Permit Conditions III.L.2* is

restricted from land disposal under **40 CFR Part 268** unless the requirements of **40 CFR Part 268** are met.

III.L.14 Closure and Post-Closure Care

III.L.14.1 At closure of the tank system(s), the Permittee shall follow requirements in *Permit Condition III.G*, the procedures in the Closure Plan, *Attachment I* and as specified in **40 CFR Part 264.197**.

III.L.14.2 If the Permittee demonstrates that not all contaminated soils can be practically removed or decontaminated, in accordance with the Closure Plan, then the Permittee shall close the tank system(s) and perform Post-Closure Care in accordance with the closure and post-closure care requirements that apply to landfills (**40 CFR Part 264.310**). In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the Permittee must meet all of the requirements for landfills specified in **40 CFR Part 264, Subpart G** and **H**. [**40 CFR Part 264.197(b)**]

III.L.15 Air Emission Standards

The Permittee shall manage all hazardous waste placed in a tank(s) system in accordance with all the applicable requirements set forth in **40 CFR Part 264.200** and Part VII of this Permit.

III.M MISCELLANEOUS UNIT REQUIREMENTS: RESERVED

PMC does not use any miscellaneous units for the treatment or storage of hazardous waste.

III.N CONTAINMENT BUILDING REQUIREMENTS: RESERVED

PMC does not use containment buildings for the treatment or storage of hazardous waste.

III.O LANDFILL POST CLOSURE REQUIREMENTS: RESERVED

There are no permitted landfills at PMC Organomatallix.

III.P INCINERATOR REQUIREMENTS

Incinerator parameters are addressed under the facilities Title V permit. The aspects of incinerator requirements addressed in this permit are waste storage, waste analysis, and closure.

III.P.1 The Permittee may operate the units and processes described in *Permit Condition III.P.2*, which are subject to the terms and conditions of this Permit. Operation of any process or unit not mentioned in *Permit Condition III.P.2,* operation of any process in a unit or area other than that for which the process is listed, or exceedance of any capacity listed therein, for the storage, treatment or disposal of hazardous waste is prohibited.

III.P.2 Specific Incinerator Unit(s)

Tin Recovery Incinerator part of the Tin Recovery System

Location:
The Tin Recovery System is located in the B-52 Building of the Facility.

Activity Description:
The Tin Recovery System is a recycling unit which employs an incinerator which produces tin oxide ash which is then sent for further recovery.

Physical Description:
The Tin Recovery Incinerator is a rotary kiln manufactured by Progressive Equipment Company of Bloomfield, Connecticut in 1979. The tin recovery incinerator does not have a model number.

III.P.3 Compliance with 40 CFR Part 63, Subpart EEE or New Incineration Unit

The facility has notified that they will comply with the operating requirements of **40 CFR Part 63, Subpart EEE** through the facility's Title V Air Permit V-18-012**.** In addition to these requirements the Permittee shall comply with the closure requirements of **40 CFR Part 264.351** or the applicable requirements of **40 CFR Part 264 Subpart A** through **H**, **BB** and **CC**. **[40 CFR Part 264.340(b)(2)]**

III.P.4 Waste Analysis

Throughout normal operation the Permittee shall conduct sufficient waste analysis to verify that the waste feed to the incinerator is within the physical and chemical composition limits specified below: [**40 CFR Part 264.341(b)**]

III.P.4.1 The permittee shall adhere to the conditions of the Waste Analysis Plan in *Attachment C*.

III.P.4.2 Specific physical limitations are as follows:

The maximum solvent waste viscosity shall be 75 centipoise. A log shall be kept and the solvent waste viscosity recorded.

III.P.4.3 Specific chemical composition limitations for waste feed, in the Table below, are consistent with the Title V permit (V-18-012) in force at the time of the issuing of this permit. As the Title V permit is modified or reissued the feed stream parameters listed below will be subordinate to the Title V permit.

Feed Stream Parameters		
Maximum Hazardous Waste Feed Rate: Solvent	471 lbs/hr	HRA
Maximum Hazardous Waste Feed Rate: Slurry	1596 lbs/hr	HRA
Maximum Mercury Feed Rate	0.0021 lbs/hr	12-HRA
Maximum SVM Feed Rate	12 lbs/hr	12-HRA
Maximum LVM Feed Rate	1.2 lbs/hr	12-HRA
Maximum Ash Feed Rate	269 lbs/hr	HRA
Maximum Chlorine Feed Rate	55 lbs/hr	12-HRA

Hourly Rolling Average (HRA) shall be calculated by collecting continuous data (at least every 15 seconds) to generate one (1) minute averages and the most recent sixty (60) individual one (1) minute averages shall be averaged to calculate the HRA according to the following equations:

$$C_{RA} = hourly\ rolling\ average = \sum_{i=1}^{60} \frac{\bar{c}_i}{60}$$

$$\bar{c} = one\ minute\ average = \sum_{j=1}^{4} \frac{c_j}{4}$$

Where:
c = a fifteen second observation

III.P.5 RESERVED

III.P.6 Performance Standards

For Performance Standards see PMC's Title V Air Permit, V-18-012.

III.P.7 Operating Requirements

Operating conditions shall be compliant with PMC's Title V permit, V-18-012.

III.P.8 Monitoring and Inspections [40 CFR Part 264.347]

Monitoring and Inspections shall be compliant with PMC's Title V permit, V-18-012

III.P.9 Closure

At closure the Permittee must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludge) from the incinerator site. **[40 CFR Part 264.351]**

III.Q SPECIAL PERMIT CONDITIONS

III.Q.1 Allowable Loading and Unloading Period

III.Q.1.1 For incoming manifested shipment of hazardous waste that has reached the Permittee's facility:

III.Q.1.1.1 The Permittee shall move all the waste within 24 hours after the waste has reached the facility and store them in the permitted storage area(s). A tanker truck stored within the Tank Truck Storage Pad/Truck Unloading Area, a permitted storage area defined in *Permit Condition III.K.2.3*, satisfies the requirement of this permit condition.

III.Q.1.1.2 The Permittee shall comply with the following in the event that the Permittee is unable to comply with *Permit Condition III.Q.1.1.1*:

III.Q.1.1.2.1 The Permittee must unload and store the waste in permitted storage area(s) within 72 hours after the waste has reached the facility.

III.Q.1.1.2.2 The Permittee shall inspect on a daily basis the transportation vehicle and the surrounding media the vehicle is located on for any hazardous waste spill or release.

III.Q.1.1.2.3 If there is a spill or release, the Permittee shall immediately remove or clean the contaminated media and shall dispose the contaminated media as well as the contaminated equipment used accordingly.

III.Q.1.1.2.4 If the contaminated media is unable to be properly removed or cleaned, the Permittee shall comply with the applicable requirements in **40 CFR Part 264 Subpart F**, **Subpart G** and **Subpart H**.

III.Q.1.1.2.5 The Permittee must document within the operating record the circumstances under which it was not able to comply with III.Q.1.1.1.

III.Q.1.2 For outgoing manifested shipment of hazardous waste that will be transported off-site to a destination facility:

III.Q.1.2.1 The waste shall not remain at the facility longer than 24 hours after the waste has been loaded onto a transportation vehicle and ready to be transported off-site.

III.Q.1.2.2 The Permittee shall comply with the following in the event that the loaded transportation vehicle mentioned in *Permit Condition III.Q.1.2.1* is unable to leave the facility within 24 hours:

III.Q.1.2.2.1 The transportation vehicle must not remain at the facility longer

than 72 hours.

III.Q.1.2.2.2 The Permittee shall comply with the *Permit Condition III.Q.1.1.2.2* through *III.Q.1.1.2.5.*

III.Q.3 Engineering Plans

The Permittee shall operate and maintain the facility in accordance with the most current, reviewed and approved by the Division engineering plans, *Attachment D* of this Permit and any modifications to those plans made in accordance with this Permit.

III.Q.4 Agreed Orders

III.Q.4.1 Operate the thermal oxidizer to destroy 95% of volatile organic compounds.

III.Q.4.2 Operate continuous pH monitoring equipment and report the results to the Division of Water. (Civil Action No. 01-7087, August 6, 2002)

III.Q.4.3 Maintain discharges to water consistent with the applicable KPDES permit. (Civil Action No. 01-7087, August 6, 2002)

III.Q.4.4 Maintain and consistently employ the slide gate cover on the hydropulper (TK-52-20) (Civil Action No. 01-7087, August 6, 2002)

III.Q.4.5 Maintain the equipment necessary to control emissions from the hydropulper (TK-52-20) (Civil Action No. 01-7087, August 6, 2002)

III.Q.4.6 Accurately report chemical releases into the environment.

III.R <u>Groundwater Monitoring Requirements</u>

PMC and Arkema Inc. are currently conducting groundwater monitoring as the result of the corrective action process. Sections E-2 through E-5, E-8, and E-9 of *Attachment E* contain relevant information relating to the facility, corrective actions for SWMUs and AOCs, and the current groundwater monitoring program.

There are no land-based units (i.e., landfills, surface impoundments, waste piles, or land treatment units that received hazardous waste after July 26 1982) at PMC Organometallix Inc. (PMC), which require groundwater monitoring.

III.R.1 The Permittee shall comply with the following requirements for any groundwater monitoring program developed to satisfy **40 CFR 264.98**, **40 CFR 264.99**, or **40 CFR 264.100,** where applicable and unless otherwise directed. **[40 CFR Part 264.97]**

III.R.2 General Groundwater Monitoring Requirements

III.R.2.1 The Permittee shall design, install and/or maintain a groundwater monitoring system and program to comply with applicable requirements of **40 CFR Part 264 - Subpart F** and as specified below, unless otherwise directed.

III.R.2.1.1 Point of Compliance Well System: The appropriately designated monitoring wells listed in *Table III.R.1* will be used to monitor groundwater quality at the Point of Compliance (POC). These monitoring wells constitute the POC monitoring well system. [**40 CFR Part 264.95]**

TABLE III.R.1
MONITORING WELLS

Background Wells	Point of Compliance Wells
MW-010	**Monitoring Wells**
MW-204	MW-005
	MW-006
	MW-007
	MW-008
	MW-009
	MW-106
	MW-107
	MW-205
	MW-206
	MW-207
	MW-208
	Production Wells
	PW-001
	PW-003
	PW-004
	PW-006

III.R.2.1.2 Background Monitoring Wells: The appropriately designated monitoring wells listed in *Table III.R.1* will be used to monitor background groundwater quality. These monitoring wells constitute the background monitoring well system. [**40 CFR Part 264.97]**

III.R.2.1.3 Additional wells shall be install as necessary to maintain compliance with **40 CFR Part 264 - Subpart F** requirements. A proposal for the design, location and installation of any additional well(s) shall be submitted to the Department for approval at least 45 days prior to the planned installation. Written approval must be obtained prior to installation of any monitoring well.

III.R.2.1.4 Well Design, Installation and Maintenance: The Permittee shall ensure that all groundwater monitoring wells are designed, installed, and maintained in accordance with **401 KAR 6:350,** and in such a manner that groundwater samples are representative of the true water quality. Additionally, the wells shall be designed, installed and monitored in such a manner to prevent interconnection between different hydrologic units. Failure of any well(s) to meet the standards described herein shall not interfere with the groundwater monitoring or corrective action programs.

III.R.2.1.5 Well Construction Details: The Permittee shall ensure that all groundwater monitoring wells are constructed in accordance with **401 KAR 6:350** requirements. The Permittee shall report the surveyed elevation of monitoring well(s) to the nearest 0.01 foot within forty-five (45) days of installation along with as-built drawings and lithologic logs. The Permittee shall also report the total well depth, screened interval, elevation of the top of casing, ground surface and protective casing.

III.R.2.1.6 Total Well Depth: The Permittee shall measure total well depth annually and redevelop any monitoring well when sediment has entered the well and accumulated to a depth of one foot; or, the accumulated sediment blocks twenty percent of the screen length, whichever is less. The Permittee shall redevelop any well exhibiting a significant decrease in yield, or a significant increase in recovery time.

III.R.2.1.7 Well Abandonment: The Permittee shall properly abandon any well(s) not meeting the standard of *Permit Condition III.R.2.1.4*. A proposal for specific well abandonment procedures shall be submitted to the Division for approval at least thirty (30) days from the last sampling date or thirty (30) days from the date it is determined that the well no longer suitable for its intended use. Monitoring well abandonment shall occur in such a manner so as to prevent the migration of surface water or contaminant to the subsurface and to prevent migration of contaminant among water bearing zones.

III.R.2.2 Sampling and Analysis Procedures: The Permittee shall use the following techniques and procedures when obtaining samples from the groundwater monitoring wells described in *Permit Conditions III.R.2.1.1 and III.R.2.1.2* of this permit to provide a reliable indication of the quality of the groundwater as required by **40 CFR Part 264.97**.

III.R.2.2.1 Sampling shall follow the procedures described in Part E of the application

(incorporated herein as *Attachment E*), the Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11), the Sampling and Analysis Plan (Appendix 12) and the *Permit Condition III.R.2*.

III.R.2.2.2 Protective disposable gloves shall be utilized during all groundwater-sampling activities. A clean pair of gloves shall be worn at each sample site.

III.R.2.2.3 Water level measurements shall be taken in the monitoring wells, specified in *Permit Condition III.R.2.1.1*, prior to any bailing or collection of samples.

III.R.2.2.4 Water level measurements shall be made from the designated reference point at each well. The reference point shall be maintained in accordance with Part E of the application (incorporated herein as *Attachment E*) and/or the Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11) and the Sampling and Analysis Plan (Appendix 12).

III.R.2.2.5 Wells shall be purged at rates specified in Part E of the application (incorporated herein as *Attachment E*) and/or the Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11) and the Sampling and Analysis Plan (Appendix 12) until all field parameters stabilize indicating that fresh formation water is being evacuated. Results for the field tests shall be recorded on the groundwater sampling record and the sample properly disposed.

III.R.2.2.6 The Permittee shall take samples in accordance with the procedures detailed in Part E of the application (incorporated herein as *Attachment E*) and/or the Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11) and the Sampling and Analysis Plan (Appendix 12). Samples shall be taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained.

III.R.2.2.7 Sample containers shall be constructed of a material compatible and non-reactive with the material it is to contain and meet the appropriate general performance standards as detailed in Part E of the application (incorporated herein as *Attachment E*) and/or the Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11) and the Sampling and Analysis Plan (Appendix 12).

III.R.2.2.8 If a preservative is added to a sample, it shall be noted on the sample label and the sampling record.

III.R.2.2.9 The Permittee shall develop a field blank by filling the appropriate sample containers from the field supply of ASTM Type I organic free water (or equivalent). This field supply water shall be the same water used for cleaning and decontamination of all equipment used for purging and sampling. Field blanks shall be taken and analyzed for each sampling event at a minimum of one (1) in every twenty (20) samples per monitoring event. The Permittee may use a trip blank in lieu of a field blank following the same procedures except for filling the

appropriate sample containers in the laboratory instead of in the field upon approval of the Division.

III.R.2.2.10 The Permittee shall develop an equipment (rinsate) blank in the field immediately following cleaning and decontamination procedures on any non-dedicated equipment used for purging, sampling, or sample filtrations by passing field supply ASTM Type I organic free water (or equivalent) through the non-dedicated equipment in the same procedure as a groundwater sample. Equipment blanks shall be taken and analyzed any time non-dedicated sampling equipment is used or when new equipment is being dedicated to a well at a minimum of one (1) in every ten (10) samples per monitoring event.

III.R.2.2.11 A sampling record shall be completed for each sample site during all groundwater monitoring events.

III.R.2.2.12 Samples shall be tracked and controlled using the chain of custody procedures specified in Part E of the application (incorporated herein as *Attachment E*) and/or the Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11) and the Sampling and Analysis Plan (Appendix 12).

III.R.2.2.13 Samples shall be preserved and shipped in accordance with the procedures specified in Part E of the application (incorporated herein as *Attachment E*) and/or the Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11) and the Sampling and Analysis Plan (Appendix 12).

III.R.2.2.14 Samples shall be analyzed according to the procedures specified in *Table III.R.2* of this permit and Part E of the application (incorporated herein as *Attachment E)* and/or the Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11) and the Sampling and Analysis Plan (Appendix 12).

TABLE III.R.2
SAMPLING METHOD

Hazardous Constituent	SW-846 (Latest Edition) Sample Method
Volatile Organic Compounds (VOCs)	Method 8260
Bis(2-ethylhexyl)phthalate	Method 8270

III.R.2.3 Statistical Analysis of Data: The data from the compliance wells shall be compared to the data from the background wells (Both sets of wells are identified in *Permit Condition III.R.2.1.1*) to

determine whether there is statistically significant evidence of contamination. The comparisons shall be performed in accordance with the requirements in **40 CFR Part 264.97**, EPA's "*Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities - Interim Final Guidance*," April 1989 and the "*Addendum to Interim Final Guidance*," July 1992 or to any such revisions to these documents.

III.R.2.4 Recordkeeping and Reporting

III.R.2.4.1 The Permittee shall enter all groundwater monitoring, testing, and analytical data obtained pursuant to *Permit Condition III.R.2.3* in the operating record, as required by **40 CFR Part 264.73**.

III.R.2.4.2 The Permittee shall submit all groundwater monitoring, testing, and analytical data obtained pursuant to *Permit Condition III.R.2.3* and *Permit Condition III.R.2.2.6* to the Manager within sixty (60) days after completion of each sampling event.

III.R.2.5 Permit Modification:

III.R.2.5.1 If the Permittee determines that the monitoring program required by this permit no longer satisfies the requirements of the regulations, the Permittee must, in accordance with **40 CFR Part 264.98** and within ninety (90) days, submit an application for a permit modification to make any appropriate changes to the program which will satisfy the regulations.

III.R.2.5.2 The Permittee shall be subject to applicable modification fees pursuant to **KRS 224.46-018**

III.R.2.6 Duty of Permittee: The Permittee must assure that monitoring and interim corrective action measures necessary to achieve compliance with the groundwater protection standard under **40 CFR Part 264.92** are taken during the term of this permit.

III.R.3 Detection Monitoring Program: RESERVED

III.R.4 Compliance Monitoring Program

III.R.4.1 Unless otherwise directed, the Permittee shall maintain and monitor the groundwater monitoring system and determine compliance with the groundwater protection standard under **40 CFR 264.92** identified in *Permit Condition III.R.4.1.1*, as required under **40 CFR 264.99** and where applicable **40 CFR 264.100.**

III.R.4.1.1 Groundwater Protection Standard: The Permittee shall ensure that the Groundwater Protection Standard (GWPS), as required under **40 CFR Part 264.92**, is being met or that remedial actions are being taken to reduce contaminant levels to meet standards. The GWPS shall consist of the hazardous constituents and their corresponding concentration limits listed in *Table III.R.2* of this Permit, as established under **40 CFR Part 264.93, 40 CFR Part 264.94,** and

401 KAR 39:090 Section 1(1).

III.R.4.2 The Permittee shall follow the requirements of the Sampling and Analysis Procedures as specified in the Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11), the Sampling and Analysis Plan (Appendix 12) and *Permit Condition III.R.2.2* in accordance with **40 CFR 264.99** and as defined in **40 CFR 264.97**.

III.R.4.3 Statistical Analysis of Data: The data from the compliance wells, identified in *Table III.R.1*, shall be compared to concentration limits developed to determine whether there is statistically significant evidence of increased contamination. The comparisons shall be performed in accordance with the requirements in **401 KAR 39:090 Section 1(1)** and **40 CFR 264.94**.

III.R.4.4 Data Evaluation

III.R.4.4.1 The Permittee shall determine groundwater quality throughout the corrective action care period, as specified in the SMP. These determinations shall be made semi-annually for wells described in *Permit Condition III.R.2.1.1* in accordance with **40 CFR Part 264.99,** where applicable **40 CFR 264.100,** and Part E of the application (incorporated herein as *Attachment E*) and/or the Site Management Plan (As an attachment to Part E permit application).

III.R.4.4.2 The determination of groundwater quality required in *Permit Condition III.R.4.5.1* shall consist of calculating whether there is a statistically significant increase in concentration of any constituents identified in *Table III.R.2* at any of the compliance wells over the concentration limits for that constituent.**[40 CFR Part 264.99]**

III.R.4.4.3 The Permittee shall in accordance with **40 CFR Part 264.99**, , determine the groundwater flow rate and direction in the uppermost aquifer annually at the time that groundwater quality is determined under *Permit Condition III.R.4.5.2,* Part E of the application ((incorporated as an attachment to Part E of the application and herein Appendix 11) and the Sampling and Analysis Plan (Appendix 12).

III.R.4.5 Compliance Monitoring Program Reporting
If the Permittee determines that any concentration limits under **40 CFR 264.94** have been exceeded at any monitoring well at the point of compliance, the Permittee must comply with the following:

III.R.4.5.1 Notify the Manager of the findings within seven (7) days, indicating what concentration limits were exceeded per **40 CFR 264.99**

III.R.4.5.2 Submit to the Manager an application for permit modification to establish a corrective action program meeting the requirements of **40 CFR 264.100** within 180 days pursuant to **40 CFR 264.99(h)(2).** The application at a minimum must include a description of corrective actions to achieve compliance with the GWPS and a plan that will demonstrate the effectiveness**.**

III.R.4.6 Source Demonstration or Error in Data: The Permittee may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or evaluation as required by **40 CFR Part 264.99**. In such case, the Permittee shall:

III.R.4.6.1 Notify the Manager in writing within seven (7) days that he intends to make a demonstration, as required in **40 CFR Part 264.99**.

III.R.4.6.2 Within ninety (90) days, submit a report to the Manager which demonstrates that a source other than the regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation, as required in **40 CFR Part 264.99**.

III.R.4.6.3 Within 90 days, submit to the Manager an application for a permit modification in accordance with *Permit Condition III.R.2.5*, to make any appropriate changes to the compliance monitoring program.

III.R.5 Groundwater Corrective Action Program

Unless otherwise directed by the Manager, the Permittee shall design, implement, and maintain a groundwater corrective action program as required by the Site Management Plan(incorporated as an attachment to Part E of the application and herein Appendix 11) and under **40 CFR Part 264.100**. The Groundwater Corrective Action Program, at a minimum, shall include and/or abide by the following conditions where applicable/designated:

III.R.5.1 Corrective Action at the Point of Compliance:
The Permittee shall design, implement, and maintain a corrective action program that prevents hazardous constituents from exceeding the GWPS as specified in *Permit Condition III.R.4.1.1* at the point of compliance.

III.R.5.2 Plume Assessment Wells: The appropriately designated monitoring wells listed in *Table III.R.1* shall be used to monitor the contaminant plume movement and to assess the effectiveness of the corrective action program.

III.R.5.3 Effectiveness of Corrective Action Program
The Permittee shall establish and implement a groundwater monitoring program in conjunction with the corrective action program in order to demonstrate efficiency. The monitoring program may be based on a compliance monitoring program under **40 CFR 264.99, where applicable**.

III.R.5.4 Corrective Action beyond the Point of Compliance:
The Permittee shall conduct a corrective action program to remove and treat any hazardous constituents that exceed the concentration limits under **401 KAR 39:090 Section1(1)**, pursuant to **40 CFR 264.94**, and the GWPS as specified in *Permit Condition III.R.4.1.1* in groundwater between the compliance point and the downgradient property boundary, and beyond the property boundary where necessary to protect human health and the environment in accordance with **40 CFR Part 264.100**.

III.R.5.5 Maintenance of the Corrective Action System:
The Permittee shall ensure that the groundwater corrective action system (i.e. groundwater recovery components and ancillary treatment equipment) is maintained to operate as specified in the approved Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11).

III.R.5.6 Corrective Action System:
Groundwater corrective action shall, at a minimum, consist of groundwater monitoring and pump and treat of perched water**,** where applicable**,** in accordance with **40 CFR 264.100**, **40 CFR 264.101** and with the approved Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11).

III.R.5.7 Statistical Analysis of Data: An appropriate statistical procedure must be proposed prior to the termination of groundwater corrective action. The proposed statistical method must compare compliance point data to the concentration limits in the GWPS as identified in **401 KAR 39:090 Section(1)**. Until such time that an appropriate statistical method has been approved by the Department, the effectiveness of the corrective action program shall be evaluated semi-annually using graphical analysis for time verses concentration trends in strategic monitoring wells. These trend analyses shall be submitted in the corrective action groundwater monitoring reports required by *Permit Condition III.R.2.4*.

III.R.5.8 Continuation of Corrective Action:
The Permittee shall continue corrective action during the compliance period to the extent necessary to ensure that the GWPS is not exceeded. In accordance with **40 CFR Part 264.100**, the compliance period is automatically extended, if necessary, until the GWPS has not been exceeded for at least three (3) consecutive years, or as otherwise designated by the Manager or approved Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11).

III.R.5.9 Modification of the Corrective Action System:
If the Permittee determines that the corrective action program no longer satisfies the requirements of **40 CFR Part 264.100**, within ninety (90) days of such a determination, the Permittee must submit a permit modification request in *Permit Condition III.R.2.5*, pursuant to **40 CFR Part 270.42,** to make any appropriate changes to the corrective action system.

E N D O F P E R M I T C O N D I T I O N S

PART IV CORRECTIVE ACTION

PART IV
CORRECTIVE ACTION
FOR SOLID WASTE MANAGEMENT UNITS & AREAS OF CONCERN

The terms and conditions of this Permit are applicable to PMC Organometallix Inc. under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

IV.A APPLICABILITY

IV.A.1 The Solid Waste Management Units (SWMUs) and areas of concern (AOCs) identified in Appendix 1.1.

IV.A.2 The SWMUs and AOCs identified in Appendix 1.2, which require no further investigation under this permit at this time.

IV.A.3 The SWMUs and AOCs identified in Appendix 1.3, which require Confirmatory Sampling.

IV.A.4 The SWMUs and AOCs identified in Appendix 1.4, which require a RCRA Facility Investigation.

IV.A.5 The SWMUs and AOCs identified in Appendix 1.5, which require Interim Measures.

IV.A.6 The SWMUs and AOCs identified in Appendix 1.6, which require Corrective Measures.

IV.A.7 Any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means; as used in this part of the permit, the terms "discover", "discovery", or "discovered" refer to the date on which the Permittee either (1) visually observes evidence of a new SWMU or AOC, (2) visually observes evidence of a previously unidentified release of hazardous constituents to the environment, or (3) receives information which suggests the presence of a new release of hazardous waste or hazardous constituents to the environment.

IV.A.8 Contamination beyond the facility boundary, if applicable. The Permittee shall implement corrective actions beyond the facility boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the Manager, that despite the Permittee's best effort, as determined by the Manager, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. Onsite measures to address such releases will be determined on a case- by-case basis. Assurances of financial responsibility for completion of such off-site corrective action will be required.

IV.B NOTIFICATION AND ASSESSMENT REQUIREMENTS FOR NEWLY IDENTIFIED SWMUS AND AOCS

IV.B.1 The Permittee shall notify the Manager, in writing, within fifteen (15) calendar days of discovery, of any additional AOCs and/or SWMUs as discovered under *Permit Condition IV.A.7*. The notification shall include, at a minimum, the location of the SWMU or AOC and all available information pertaining to the nature of the release (e.g., media affected, hazardous constituents released, magnitude of release, etc.). If the Manager determines that further investigation of an AOC is required, the permittee shall be required to prepare a plan for such investigations as outlined in *Permit Condition IV.D* or *Permit Condition IV.E*.

IV.B.2 The Permittee shall prepare and submit to the Manager, within ninety (90) calendar days of notification, an Assessment Report (AR) for each SWMU or AOC identified under *Permit Condition IV.B.1*. At a minimum, the AR shall provide the following information:

IV.B.2.1 Location of unit(s) on a topographic map of appropriate scale such as required under **40 CFR Part 270.14(b)**.

IV.B.2.2 Designation of type and function of unit(s).

IV.B.2.3 General dimensions, capacities, and structural description of unit(s) (supply any available plans/drawings).

IV.B.2.4 Dates that the unit(s) was operated.

IV.B.2.5 Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on **40 CFR Part 261 Appendix VIII**.

IV.B.2.6 All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include groundwater data, soil analyses, air, and/or surface water data).

IV.B.2.7 The unique sequential identification for the SWMU or AOC.

IV.B.3 Based on the results of the AR, the Manager, shall determine the need for further investigations at the SWMUs covered in the AR. If the Manager determines that such investigations are needed, the Permittee shall be required to prepare a plan for such investigations as outlined in *Permit Condition IV.D* or *IV.E*.

IV.C NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES AT PREVIOUSLY IDENTIFIED SWMUS AND AOCS

IV.C.1 The Permittee shall notify the Manager in writing of any newly discovered release(s) of hazardous waste or hazardous constituents discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, within fifteen (15) calendar days of discovery. Such newly discovered releases may be from SWMUs or AOCs identified in *Permit Condition IV.A.2* or for which further investigation under *Permit Condition IV.B* was not required.

IV.C.2 If the Manager determines that further investigation of the SWMUs or AOCs is needed, the Permittee shall be required to prepare a plan for such investigations as outlined in *Permit Condition IV.D* or *IV.E*.

IV.D CONFIRMATORY SAMPLING (CS)

IV.D.1 The Permittee shall prepare and submit a Confirmatory Sampling Work Plan to the Manager, within forty-five (45) calendar days of notification by the Manager that a Confirmatory Sampling Work Plan is required for any newly discovered release at an existing SWMU or AOC or for a newly-identified SWMU or AOC. The CS Work Plan shall include schedules of implementation and completion of specific actions necessary to determine whether or not a release has occurred. It shall also address applicable requirements and affected media.

IV.D.2 The Permittee shall prepare and submit a Confirmatory Sampling Work Plan for each SWMU or AOC identified in Appendix 1.1. The CS Work Plan shall be submitted within forty-five (45) calendar days of the effective date of the permit. The CS Work Plan shall include schedules of implementation and completion of specific actions necessary to determine whether or not a release has occurred. It shall also address applicable requirements and affected media.

IV.D.3 The CS Work Plan must be approved by the Manager, in writing, prior to implementation. The Manager shall specify the start date of the CS Work Plan schedule in the letter approving the CS Work Plan. If a start date is not specified, work shall begin within 60 days of approval. If the Manager disapproves the CS Work Plan, the Manager shall either (1) notify the Permittee in writing of the CS Work Plan's deficiencies and specify a due date for submission of a revised CS Work Plan, (2) revise the CS Work Plan and notify the Permittee of the revisions, or (3) conditionally approve the CS Work Plan and notify the Permittee of the conditions.

IV.D.4 The Permittee shall implement the confirmatory sampling in accordance with the approved CS Work Plan.

IV.D.5 The Permittee shall prepare and submit to the Manager in accordance with the schedule in the approved CS Work Plan, a Confirmatory Sampling (CS) Report. The CS Report shall include all data, including raw data, and a summary and analysis of the data that supports the above determination.

IV.D.6 Based on the results of the CS Report, the Manager shall determine the need for further investigations at the SWMUs or AOCs covered in the CS Report. If the Manager determines that such investigations are needed, the Permittee shall be required to prepare a plan for such investigations as outlined in *Permit Condition IV.E*. The Manager will notify the permittee of any no further action decision.

IV.E RCRA FACILITY INVESTIGATION (RFI)

IV.E.1 RFI Work Plan(s)

IV.E.1.1 The Permittee shall prepare and submit to the Manager, within ninety (90) calendar days upon notification from the Division that a RCRA Facility Investigation (RFI) Work Plan(s) is required for those units identified in *Permit Condition IV.B.3*, *IV.C.2* and *IV.D.5*. This Work Plan shall be developed to meet the requirements of *Permit Condition IV.E.1.3*.

IV.E.1.2 The Permittee shall prepare and submit to the Manager, within 90 days of the effective date of this permit, a RFI Work Plan for those units identified in *Permit Condition IV.A.4*. This Work Plan shall be developed to meet the requirements of *Permit Condition IV.E.1.3*.

IV.E.1.3 The RFI Work Plan(s) shall meet the requirements of Appendix 8 The RFI Work Plan(s) shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of releases and the potential pathways of contaminant releases to the air, land, surface water, and groundwater. The Permittee must provide sufficient justification and/or documentation that a release is not probable if a unit or a media/pathway associated with a unit (groundwater, surface water, soil, subsurface gas, or air) is not included in the RFI Work Plan(s). Such deletions of a unit, media or pathway from the RFI(s) are subject to the approval of the Manager. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix 8. Such omissions or deviations are subject to the approval of the Manager. In addition, the scope of the RFI Work Plan(s) shall include all investigations necessary to ensure compliance with **40 CFR Part 264.101**.

IV.E.1.4 The RFI Work Plan(s) must be approved by the Manager, in writing, prior to implementation. The Manager shall specify the start date of the RFI Work Plan schedule in the letter approving the RFI Work Plan(s). If the Manager disapproves the RFI Work Plan(s), the Manager shall either (1) notify the Permittee in writing of the RFI Work Plan's deficiencies and specify a due date for submission of a revised RFI Work Plan, or (2) revise the RFI Work Plan and notify the Permittee of the revisions and the start date of the schedule within the approved RFI Work Plan, or (3) conditionally approve the RFI Work Plan and notify the Permittee of the conditions.

IV.E.2 RFI Implementation

The Permittee shall implement the RFI(s) in accordance with the approved RFI Work Plan(s). The Permittee shall notify the Manager, at least two weeks prior to any sampling activity.

IV.E.3 ***RFI Reports***

IV.E.3.1 If the time required to conduct the RFI(s) is greater than one hundred eighty (180) calendar days, the Permittee shall provide the Manager, with quarterly RFI Progress Reports (90 day intervals) beginning ninety (90) calendar days from the start date specified by the Manager in the RFI Work Plan approval letter. The Progress Reports shall contain the following information at a minimum:

IV.E.3.1.1 A description of the portion of the RFI completed;

IV.E.3.1.2. Summaries of findings;

IV.E.3.1.3 Summaries of any deviations from the approved RFI Work Plan during the reporting period;

IV.E.3.1.4 Summaries of any significant contacts with local community public interest groups or State government;

IV.E.3.1.5 Summaries of any problems or potential problems encountered during the reporting period;

IV.E.3.1.6 Actions taken to rectify problems;

IV.E.3.1.7 Changes in relevant personnel;

viii. **IV.E.3.1.8** Projected work for the next reporting period; and

IV.E.3.2 The Permittee shall prepare and submit to the Manager, a RCRA Facility Investigation Report(s) for the investigations conducted pursuant to the RFI Work Plan(s) submitted under *Permit Condition IV.E.1*. The RFI Report(s) shall be submitted to Manager for review in accordance with the schedule in the approved RFI Work Plan(s). The RFI Report(s) shall include an analysis and summary of all required investigations of SWMUs and AOCs and their results. The summary shall describe the type and extent of contamination at the facility, including sources and migration pathways, identify all hazardous constituents present in all media, and describe actual or potential receptors. The RFI Report(s) shall also describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative of the area. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/or the environment, and to support a Corrective Measures Study, if necessary.

IV.E.3.3 The RFI Report(s) shall include a proposal for a groundwater monitoring and reporting schedule for those SWMUs and/or AOCs at which groundwater contamination has been detected. Monitoring will be continued until a remedy selection is made by the Division.

IV.E.3.4 The Manager will review the Final RFI Report(s) and notify the Permittee of the need for further investigative action and/or the need for a Corrective Measures Study to meet the requirements of *Permit Condition IV.B* and **40 CFR Part 264.101**. The Manager will notify the Permittee of any no further action decision. Any further investigative action required by the Manager shall be prepared and submitted in accordance with a schedule specified by the Manager and approved in accordance with *Permit Condition IV.E.1.3*.

IV.F INTERIM MEASURES (IM)

IV.F.1 IM Work Plan

IV.F.1.1 Upon notification by the Manager, the Permittee shall prepare and submit an Interim Measures (IM) Work Plan for any SWMU or AOC which the Manager determines is necessary. Interim Measures shall be designed to minimize or prevent the further migration of contaminants and limit human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented. The IM Work Plan shall be submitted within the specified time identified by the Manager in such notification.

IV.F.1.2 The IM Work Plan shall ensure that the interim measures are designed to mitigate any current or potential threat(s) to human health or the environment and is consistent with and integrated into any long-term solution at the facility. The IM Work Plan shall include: the interim measures objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation.

IV.F.1.3 The IM Work Plan must be approved by the Manager, in writing, prior to implementation. The Manager shall specify the start date of the IM Work Plan schedule in the letter approving the IM

Work Plan. If the Manager disapproves the IM Work Plan, the Manager shall either (1) notify the Permittee in writing of the IM Work Plan's deficiencies and specify a due date for submission of a revised IM Work Plan, or (2) revise the IM Work Plan and notify the Permittee of the revisions and the start date of the schedule within the approved IM Work Plan, or (3) conditionally approve the IM Work Plan and notify the Permittee of the conditions.

IV.F.2 IM Implementation

IV.F.2.1 The Permittee shall implement the interim measures in accordance with the approved IM Work Plan.

IV.F.2.2 The Permittee shall give notice to the Manager as soon as possible of any planned changes, reductions or additions to the IM Work Plan.

IV.F.2.3 Final approval of corrective action required under **40 CFR Part 264.101**, which is achieved through interim measures shall be in accordance with **40 CFR Part 270.41** and *Permit Condition IV.H* as a permit modification.

IV.F.3 IM Reports

IV.F.3.1 If the time required for completion of interim measures is greater than one year, the Permittee shall provide the Manager with progress reports at intervals specified in the approved Work Plan. The Progress Reports shall contain the following information at a minimum:

IV.F.3.1.1 A description of the portion of the interim measures completed;

IV.F.3.1.2 Summaries of findings;

IV.F.3.1.3 Summaries of all deviations from the IM Work Plan during the reporting period;

IV.F.3.1.4 Summaries of all problems encountered during the reporting period; and

IV.F.3.1.5 Projected work for the next reporting period;

IV.F.3.2 The Permittee shall prepare and submit to the Manager, within ninety (90) calendar days of completion of interim measures conducted under *Permit Condition IV.F.1*, an Interim Measures (IM) Report. The IM Report shall contain the following information at a minimum:

IV.F.3.2.1 A description of interim measures implemented;

IV.F.3.2.2 Summaries of results;

IV.F.3.2.3 Summaries of all problems encountered;

IV.F.3.2.4 Summaries of accomplishments and/or effectiveness of interim measures; and

IV.F.3.2.5 Copies of all relevant laboratory/monitoring data, etc. in accordance with *Permit*

Condition II.E.9.

IV.G CORRECTIVE MEASURES STUDY

IV.G.1 Corrective Measures Study (CMS) Work Plan

IV.G.1.1 The Permittee shall prepare and submit a CMS Work Plan for those units requiring a CMS within ninety (90) calendar days of notification by the Manager that a CMS is required. This CMS Work Plan shall be developed to meet the requirements of *Permit Condition IV.G.1.2*. The CMS may be performed concurrent with the RFI if the Division determines that sufficient investigative details are available to allow concurrent action.

IV.G.1.2 The CMS Work Plan shall meet the requirements of Appendix 9. The CMS Work Plan shall include schedules of implementation and completion of specific actions necessary to complete a CMS. The Permittee must provide sufficient justification and/or documentation for any unit deleted from the CMS Work Plan. Such deletion of a unit is subject to the approval of the Manager. The CMS shall be conducted in accordance with the approved CMS Work Plan. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix 9 Such omissions or deviations are subject to the approval of the Manager. The scope of the CMS Work Plan shall include all investigations necessary to ensure compliance with **40 CFR Part 264.100, 40 CFR Part 264.101,** and **40 CFR Part 270.32**. The Permittee shall implement corrective actions beyond the facility boundary, if necessary, as set forth in *Permit Condition IV.A.38*.

IV.G.1.3 The Manager shall either approve or disapprove, in writing, the CMS Work Plan. If the Manager disapproves the CMS Work Plan, the Manager shall either (1) notify the Permittee in writing of the CMS Work Plan's deficiencies and specify a due date for submittal of a revised CMS Work Plan, or (2) revise the CMS Work Plan and notify the Permittee of the revisions, or (3) conditionally approve the CMS Work Plan and notify the Permittee of the conditions.

IV.G.1.4 The CMS Work Plan and CMS Report may be combined, upon approval of the Manager.

IV.G.2 Corrective Measures Study Implementation

The Permittee shall begin to implement the Corrective Measures Study according to the schedules specified in the approved CMS Work Plan.

IV.G.3 CMS Report

IV.G.3.1 The Permittee shall prepare and submit to the Manager a CMS Report for the study conducted pursuant to the approved CMS Work Plan. The CMS Report shall be submitted to the Manager per the schedule approved in the CMS Work Plan. Any revised CMS Reports shall be submitted to the Division within thirty (30) days of receipt of the Divisions comments. The CMS Report shall summarize any bench scale- or pilot tests conducted. The CMS Report must include an evaluation of each remedial alternative. The CMS Report shall present all information gathered under the approved CMS Work Plan. The CMS Report must contain adequate information to

support the Manager's decision on the recommended remedy, described under *Permit Condition IV.G*.

IV.G.3.2 If the Manager determines that the CMS Report does not fully satisfy the information requirements specified under *Permit Condition IV.G.3.1*, the Manager may disapprove the CMS Report. If the Manager disapproves the CMS Report, the Manager shall notify the Permittee in writing of deficiencies in the CMS Report and specify a due date for submittal of a revised CMS Report. The Manager will notify the Permittee of any no further action decision.

IV.G.3.3 As specified under *Permit Condition IV.G.3.2*, based on preliminary results and the CMS Report, the Manager may require the Permittee to evaluate additional remedies or particular elements of one or more proposed remedies.

IV.H CORRECTIVE MEASURES IMPLEMENTATION (CMI)

IV.H.1 CMI Work Plan

Within thirty (30) days of the effective date of the Permit modification for the remedy selection, unless otherwise agreed by the Manager, the Permittee shall prepare and submit a Corrective Measures Implementation (CMI) Work Plan for the SWMUs or AOCs requiring corrective measures implementation. At a minimum, this Work Plan shall include the following:

IV.H.1.1 A description of the conceptual design, technical features (e.g. Plans and Specifications) and a Construction Plan for the selected remedy(ies) to achieve media cleanup standards protective of human health and the environment, controlling the source(s) of release, and complying with standards for the management of wastes and any remedial residues.

IV.H.1.2 A proposed schedule that takes into account all phases of the CMI. The schedule should also include the submittal of documents to support the CMI (e.g. Operation and Maintenance Plan, Construction Completion Report, etc.) as described in *Permit Conditions IV.I.2* and *IV.I.4*.

IV.H.1.3 Requirements for removal and decontamination of units, equipment, devices or structures that will be used to implement the remedy(ies).

IV.H.2. Operation and Maintenance Plan

If required under the CMI WP, an Operation and Maintenance Plan (O&MP) shall be submitted to the Manager in accordance with the schedule required by *Permit Condition IV.I.1.2*. The O&MP, at a minimum, shall include the following:

IV.H.2.1 A system description, startup procedures, operation and maintenance procedures and schedule of inspection and maintenance;

IV.H.2.2 Waste management practices, sampling and analysis required for operation and contingency procedures;

IV.H.2.3 A description of the Corrective Measure(s) completion criteria and the method to be used to show when the criteria are met; and

IV.H.2.4 For remedies with Land Use Controls, the Operation and Maintenance Plan should include the requirements of Permit Condition IV.I.5.

IV.H.3. Manager Approval

All Plans required for the CMI phase, required by *Permit Condition IV.I* must be approved, in writing, by the Manager prior to implementation, in accordance with *Permit Condition IV.K.1*

IV.H.4. Construction Completion Report

If required under the CMI WP, a Construction Completion Report (CCR) shall be submitted to the Manager, in accordance with the schedule required by *Permit Condition IV.I.1.2*, that demonstrates the completion of the remedy construction in accordance with approved plans and specifications. The CCR shall be submitted when all operational tests have been completed. Any necessary documentation required by the Division shall be included in this report.

IV.H.5. Remedy with Land Use Controls

Any final remedy that incorporates land use controls shall be in accordance with **KRS 224 Subchapter 80** and the approved Site Management Plan (incorporated as an attachment to Part E of the application and herein Appendix 11) and Finalized Environmental Covenant (incorporated as an attachment to Part E of the application and herein Appendix 13). The current SWMUs and AOCs for which land use controls are selected as an integral part of the final remedy are listed in Appendix 7 - SWMUs and AOCs Requiring Land Use Controls and shall be managed by the approved Site Management Plan. When additional corrective measures incorporate land use controls as part of the selected remedy, the following information should be provided:"

IV.H.5.1 The name, address and phone number of the person to contact about the SWMU or AOC;

IV.H.5.2 Any necessary security provisions consistent with **40 CFR Part 264.14** to prevent unauthorized entry and/or use of the waste unit;

IV.H.5.3 A description of measures to protect the integrity of any installed engineering control(s) and associated features considered as part of the selected remedy, for the period that has to be maintained;

IV.H.5.4 Planned maintenance and monitoring activities, and frequencies to ensure the security provisions are maintained;

An inspection checklist describing the land use control elements to be inspected, the frequency of inspection, and the potential problems that could be encountered. The checklist shall contain an area where the inspector may enter his/her name, the date of inspection, and the date upon which any problems encountered are remediated;

IV.H.5.5 Procedure(s) to follow when a determination is made that the land use control(s) are not effective and require modification;

IV.H.5.6 The mechanism by which a notification will be recorded on the deed for the facility property, or some other instrument which is normally examined during title search, that will in perpetuity notify any potential future purchaser of the property, that the property had been used for waste management and disposal activities and that restrictions exist precluding a residential use of the land. The need for a deed restriction may be reevaluated upon the transfer of ownership or control; and

IV.H.5.7 The mechanism by which other pertinent agencies (State or Federal) will be given notice of restrictions placed on the use of the property that is affecting or may affect in the future, areas under the control of other State or Federal agencies.

IV.H.6 CMI Progress Reports

If the time frame required to complete corrective measures implementation is greater than one hundred and eighty (180) days, the Permittee shall provide the Division with semi-annual Corrective Measures Implementation Progress Reports (180 day intervals) beginning from the date the CMI Work Plan is approved by the Division, until the Remedy Completion Report is approved by the Division. The time frame stated is effective unless otherwise agreed to by the Division. The CMI Progress Reports shall contain at least the following information:

IV.H.6.1 A description of the portion of the CMI Work Plan completed (e.g. sampling events, operations, volumes removed/treated, wastes generated, etc);

IV.H.6.2 A summary of system performance/compliance and progress toward achieving cleanup goals;

IV.H.6.3 A summary of any deviations from the approved CMI Work Plan during the reporting period;

IV.H.6.4 Summaries of all contacts with local community and public interest groups or State and Federal Government;

IV.H.6.5 A summary of any problems or potential problems encountered during the reporting period;

IV.H.6.6 A summary of actions taken to rectify the problems;

IV.H.6.7 Any changes in relevant personnel; and

IV.H.6.8 Projected work for the next reporting period.

IV.H.7 Remedy Completion Report

IV.H.7.1 Within ninety (90) days of completion of the CMI, unless otherwise agreed by the Division, the Permittee shall submit a CMI Report, including certification of completion of the corrective measures activities. The CMI Report shall summarize the activities and results from the entire

period of Corrective Measures Implementation. The CMI Report shall also demonstrate compliance with all media cleanup goals and meet the corrective measures completion criteria in accordance with *Permit Condition IV.I.2.3*. Approval by the Division of the final CMI Report constitutes remedy completion.

IV.H.7.2 For corrective measures involving the cleanup of groundwater, the Permittee must demonstrate that the concentrations of the constituents of concern remain at or below cleanup levels for three (3) consecutive years after the corrective measures have been terminated. The time frame stated is effective unless otherwise agreed to by the Manager.

IV.I REMEDY APPROVAL AND PERMIT MODIFICATION

IV.I.1 The Manager shall select a remedy from the remedial alternatives evaluated in the CMS. The selection will be based at a minimum on protection of human health and the environment, as per specific site conditions, existing regulations, and guidance. The selected remedy may include any interim measures implemented to date.

IV.I.2 Statement of Basis

IV.1.2.1 Submittal of a Statement of Basis maybe required upon approval of the CMS Report or other Manager decision *[i.e. NFA]*. If required, the Permittee shall prepare a draft Statement of Basis that provides a summary and justification of the selected remedy. The Statement of Basis should be written following EPA guidance "*Guidance on RCRA Corrective Action Decision Documents: The Statement of Basis, Final Decision and Response to Comments*," February 1991, EPA/540/G-91/011, (or most recent version) or other Manager approved guidance, and should include information on the proposed remedy, facility background, exposure pathways, cleanup goals, the scope of the corrective action, the remedial alternatives considered, an evaluation of those alternatives, and public participation.

IV.1.2.2 A draft Statement of Basis shall be submitted to the Manager within thirty (30) days unless otherwise specified by the Manager. The Manager shall notify the Permittee of deficiencies and specify a due date for submittal of a revised Statement of Basis or revise and finalize the Statement of Basis.

IV.I.3 Pursuant to **40 CFR Part 270.41**, a permit modification will be initiated by the Manager, after recommendation of a remedy under *Permit Condition IV.H.1*. This modification will serve to incorporate a final remedy into this permit.

IV.I.4 Within one hundred and twenty (120) calendar days after this permit has been modified, the Permittee shall demonstrate financial assurance for completing the approved remedy.

IV.J MODIFICATION OF THE CORRECTIVE ACTION SCHEDULE OF COMPLIANCE

IV.J.1 Modifications to the corrective action schedule of compliance will not constitute a reissuance of the Permit. The Manager may grant extensions at his/her sole discretion, subject to adequate justification by the

Permittee.

IV.J.2 The Schedule of Compliance is attached to and incorporated in this permit as Appendix 4. If at any time, the Manager determines that modification of the corrective action schedule is necessary, the Manager may initiate a modification to the schedule.

IV.K IMMINENT HAZARDS

IV.K.I The Permittee shall report to the Manager, any imminent or existing hazard to public health or the environment from any release of hazardous waste or hazardous constituents from SWMUs and or Areas of Concern consistent with requirements specified in *Permit Condition II.E.15*.

IV.L WORK PLAN AND REPORT REQUIREMENTS

IV.L.I All work plans and schedules shall be subject to approval by the Manager, prior to implementation to assure that such work plans and schedules are consistent with the requirements of this Permit and with applicable regulations and guidance. The Permittee shall revise all submittals and schedules as specified by the Manager. The Permittee shall implement all work plans and schedules as approved by the Manager.

IV.L.2 All work plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Division based on the Permittee's demonstration that sufficient justification for the extension exists.

IV.L.3 If the Permittee at any time determines that the AR information required under *Permit Condition IV.B*, or the CS Work Plan under *Permit Condition IV.D*, or RFI Work Plan(s) required under *Permit Condition IV.E* no longer satisfy the requirements of **40 CFR Part 264.101** or this permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units and/or areas of concern, the Permittee shall submit an amended RFI Work Plan(s) and/or AR to the Director within ninety (90) calendar days of such determination.

IV.L.4 All reports shall be signed and certified in accordance with **40 CFR Part 270.11**.

IV.L.5 At least one (1) copy of all reports and work plans shall be provided by the Permittee to the Division of Waste Management at the address specified in *Permit Condition II.B.2.2*.

IV.M APPROVAL/DISAPPROVAL OF SUBMITTALS

IV.M.1 The Manager will review the work plans, reports, schedules, and other documents ("submittals") which require the Manager's approval in accordance with the conditions of this permit. The Manager will notify the Permittee in writing of any submittal that is disapproved, and the basis therefore. In the event the Permittee disagrees, in whole or in part, with the Manager's decision of a submittal or disapproval of any revised submittal required by the permit, the Permittee has the right to seek a hearing under **KRS 224.10-420(2)**. As applicable the permittee shall submit a copy of reports and work plans to USEPA Region 4.

E N D O F P E R M I T C O N D I T I O N S

PART V WASTE MINIMIZATION

PART V
WASTE MINIMIZATION

The terms and conditions of this Permit are applicable to PMC Organometallix Inc. under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

V.A GENERAL RESTRICTIONS

V.A.1 In the event that the Permittee treats, stores, or disposes of hazardous wastes onsite where such wastes were generated, then the Permittee must comply with **40 CFR Part 264.73** and the Permittee must certify, no less often than annually, that:

V.A.1.1 The Permittee has a program in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and

V.A.1.2 The proposed method of treatment, storage, or disposal is the most practicable method available to the Permittee which minimizes the present and future threat to human health and the environment.

V.B RECORDKEEPING REQUIREMENTS

If *Permit Condition V.A* is applicable, then the Permittee shall maintain copies of this certification in the facility Operating Record as required by **40 CFR Part 264.73**.

END OF PERMIT CONDITIONS

PART VI LAND DISPOSAL RESTRICTIONS

PART VI
LAND DISPOSAL RESTRICTIONS

The terms and conditions of this Permit are applicable to PMC Organometallix Inc. under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

VI.A GENERAL RESTRICTIONS

VI.A.1 **40 CFR Part 268** identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be placed on or in a land treatment, storage or disposal unit. The Permittee shall maintain compliance with the requirements of **40 CFR Part 268**. Where the Permittee has applied for an extension, waiver, or variance under **40 CFR Part 268**, the Permittee shall comply with all restrictions on land disposal under this Part once the effective date for the waste has been reached pending final approval of such Application.

VI.B LAND DISPOSAL PROHIBITIONS AND TREATMENT STANDARDS

VI.B.1 A restricted waste identified in **40 CFR Part 268** may not be placed in a land disposal unit without further treatment unless the requirements of **40 CFR Part 268.50** are met.

VI.B.2 The storage of hazardous wastes restricted from land disposal under **40 CFR Part 268** is prohibited unless the requirements of **40 CFR Part 268** are met.

E N D O F P E R M I T C O N D I T I O N S

PART VII ORGANIC AIR EMISSION REQUIREMENTS

PART VII
ORGANIC AIR EMISSION REQUIREMENTS

The terms and conditions of this Permit are applicable to PMC Organometallix Inc. under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

The purpose of Organic Air Emission Standards (**40 CFR Part 264 - Subpart AA**, **BB** and **CC**) is to control air emissions from hazardous waste treatment, storage, and disposal facilities or units, as well as associated ancillary equipment and systems.

VII.A AIR EMISSION STANDARDS FOR PROCESS VENTS

VII.A.1 **40 CFR Part 264 – Subpart AA** contains emission standards for process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping operations that manage hazardous waste with an annual average total organic concentration of at least ten (10) parts per million (ppm) by weight (ppmw). It also contains standards for closed-vent systems and control devices.

The Permittee does not currently operate and is not currently authorized under this Permit to operate any process vents, closed-vent systems, or control devices at the Facility that are subject to 40 CFR Part 264 – Subpart AA. The permittee does operate a closed vent system under the provisions of Subpart CC, with requirements in ***Permit Condition VII.C.10****.*

VII.A.2 Notification of Modifications, Additions, or New Units

Prior to installing or operating any process vents, closed-vent systems, or control devices subject to **40 CFR Part 264 – Subpart AA**, or modifying any existing equipment, procedure, or process such that the process vents, closed-vent systems, or control devices will become subject to **40 CFR Part 264 – Subpart AA**, the Permittee shall apply for a permit modification in accordance with *Permit Condition II.B.1* and *Permit Condition II.B.4.*

VII.A.3 Test Methods and Procedures [40 CFR 264.1034]

VII.A.3.1 The Permittee shall comply with the test methods and procedures of **40 CFR Part 264.1034** for all process vents, closed-vent systems, and control devices subject to **40 CFR. Part 264 – Subpart AA**. [**40 CFR Part 264.1034**]

VII.A.3.2 All testing, monitoring and confirmatory sampling must be conducted during times of operation by persons trained in the proper implementation of the test methods and procedures required by **40 CFR Part 264.1034**, including, but not limited, to Method 21. [**40 CFR Part 264.1034**]

VII.A.4 Recordkeeping Requirements [40 CFR 264.1035]

VII.A.4.1 Records demonstrating compliance with **40 CFR Part 264 – Subpart AA**, including any third party's records, shall be maintained, accessible at the Facility or other appropriate location approved by the Division, for a period of not less than three (3) years. All records necessary for demonstrating compliance shall include, at a minimum, the required recordkeeping information listed in **40 CFR Part 264.1035** and applicable *Permit Condition II.E.9*. [**40 CFR Part 264.1035**]

VII.A.4.2 These records shall include but are not limited to: [**40 CFR Part 264.1035**]

VII.A.4.2.1 The current list of regulated process vents, closed-vent systems or control devices, and their physical location at the Facility as illustrated on a Facility map and/or piping and instrumentation diagram;

VII.A.4.2.2 All associated engineering calculations, waste determinations, design analysis, operating information, specifications, drawings, schematics, piping and instrumentation diagrams (P&ID) and standards for each process vent, closed-vent system, or control device;

VII.A.4.2.3 All maintenance, inspection, monitoring, leak detection, repair, and delay of repair records associated with each process vent, closed-vent system, or control device; and

VII.A.4.2.4 Training documentation for persons conducting inspections or monitoring.

VII.A.4.3 Records explaining why a component(s) of a closed-vent system has been designated as unsafe to monitor in accordance with **40 CFR Part 264.1033(o)**, shall be kept at the Facility or other appropriate location approved by the Division, and must be available for inspection at reasonable times, and demonstrate compliance with the requirements of **40 CFR Part 264.1033(o)** and **264.1035(c)**. [**40 CFR Part 264.1035**]

VII.A.5 Reporting Requirements [40 CFR 264.1036]

VII.A.5.1 In accordance with **40 CFR Part 264.1036**, at such time as the Permittee adds equipment subject to 40 CFR 264 Subpart AA the Permittee shall prepare and submit a report semiannually to the Division at the address specified in *Permit Condition II.B.2.2,* documenting all information required by **40 CFR Part 264.1036** for that semiannual reporting period. [**40 CFR Part 264.1036**]

VII.A.5.2 The semiannual report shall be submitted by January 31st and July 31st of each calendar year. A copy of the semiannual report shall be maintained in the Facility's operating record. [**40 CFR Part 264.1036**]

VII.B AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS

VII.B.1 **40 CFR Part 264 - Subpart BB** contains air emission standards for equipment leaks and applies to all equipment that contains or contacts hazardous wastes with organic concentrations of at least ten (10)

percent by weight.

The permittee operates equipment which are subject to the requirements of Subpart BB. See Attachment M Table BB-1 which lists and quantifies, by area, the equipment components currently subject to the organic emission standards of Subpart BB. This includes pumps,

VII.B.2 Notification of Modifications, Additions, or New Units

Prior to installing or operating any new unit or equipment subject to **40 CFR Part 264 – Subpart BB**, or modifying any existing unit, equipment, procedure, or process such that the unit(s) or equipment will become subject to **40 CFR Part 264 – Subpart BB**, the Permittee shall apply for a permit modification in accordance with *Permit Condition II.B.1* and *Permit Condition II.B.4.*

VII.B.3 Marking and Tagging [40 CFR 264.1050(d) and 264.1064(c)]

VII.B.3.1 The Permittee shall maintain the most current equipment identification list and up-to- date Piping and Instrumentation Diagram (P&ID) in the Facility's operating record. *Attachment D* Appendix D-3 of this Permit includes the equipment identification list and P&ID as provided in the Approved Permit Application.

VII.B.3.2 The Permittee shall ensure that all Subpart BB equipment is uniquely marked and tagged for the specific purposes of tracking, monitoring, inspecting, and repairing each piece of equipment in accordance with **40 CFR Part 264.1050(d)**. The marking must be of a permanent nature, weatherproof, and regularly maintained to ensure it is clearly visible at all times of operation.

VII.B.3.3 The unique marking of the equipment shall correspond to, and be identified on, the current equipment identification list and up-to-date P&ID maintained at the Facility and used to conduct all inspections and monitoring.

VII.B.3.4 Tags used to identify leaks and potential leaks must comply with all the applicable requirements of **40 CFR Part 264.1064(c)**, including, but not limited to the following requirements:

VII.B.3.4.1 The tags must include the equipment identification number;

VII.B.3.4.2 The tags must be red or some other readily visible bright color; and

VII.B.3.4.3 The tags must be made of or coated in a material that is not degraded by the hazardous waste stream, or weather, including UV light.

VII.B.4 Excluded Equipment [40 CFR Part 264.1050(e) and (f)]

VII.B.4.1 Equipment that is in vacuum service is excluded from the requirements of **40 CFR Part 264.1052** through **1060** and corresponding conditions of this Permit if it is identified as required by **40 CFR Part 264.1064(g)(5)** and in *Table VII.2* below.

VII.B.4.2 Equipment that contains or contacts hazardous waste with an organic concentration of at least

ten (10) percent by weight for less than 300 hours per calendar year is excluded from the requirements of **40 CFR Part 264.1052** through **1060** and the corresponding conditions of this Permit if it is identified as required by **40 CFR Part 264.1064(g)(6)** and in *Table VII.2* below.

VII.B.4.3 The equipment identified in *Table VII.1* below is excluded from the requirements of **40 CFR Part 264.1052** through **1060**, as indicated.

TABLE VII.1 RCRA SUBPART BB EXEMPTED AND EXCLUDED HAZARDOUS WASTE EQUIPMENT CITATIONS	
Unit and Description	**Exclusion/Exemption Claimed**
Vacuum service	40 CFR 264.1050(e)
Hazardous waste service <300 hr/yr	40 CFR 264. 1050(f)
Dual mechanical seal with barrier fluid	40 CFR 264.1052(d)
Difficult to monitor valves	40 CFR 264.1057(h)
Inaccessible connectors	40 CFR 264.1058(e)

VII.B.4.4 Should conditions change such that the Permittee is no longer able to claim the exclusion identified in *Table VII.*1 the Permittee shall immediately notify the Division per *Permit Conditions II.E.7, II.E.10* and *II.E.11* of this Permit, and should comply with the requirements of **40 CFR Part 264 – Subpart BB**.

VII.B.4.5 The equipment identified in *Table VII.2* below is excluded from the requirements of **40 CFR Part 264.1050(e)** or **(f)**, as indicated.

Table VII.2 RCRA SUBPART BB EXCLUDED HAZARDOUS WASTE MANAGEMENT EQUIPMENT			
Equipment	**Location**	**Exclusion**	**Basis**
Containment area sump lines from B-64 and B-65 pads, TK-052004A, and TK-05205 to TK-052009A/B, TK-052010 and hydropulper. Includes pumps, valves and flanges/connectors.	TRS Permitted Area	<300 hr/yr service	The duration and frequency of such transfers demonstrate use at <300 hours per year. Sumps normally collect precipitation (rainfall and snowmelt). If hazardous waste is spilled into sump, PMC will implement appropriate containment and cleanup measures.
SU-052020 discharge line to TK-052009A/B, TK-052010 and hydropulper. Includes pumps, valves and flanges/connectors.	TRS Permitted Area	<300 hr/yr service	The duration and frequency of such transfers demonstrate use at <300 hours per year. Sumps

			normally collect precipitation (rainfall and snowmelt). If hazardous waste is spilled into sump, PMC would implement appropriate containment and cleanup measures.
Equipment for liquid waste drum-out lines in the locations specified. Includes pumps, valves and flanges/connectors.	(90-Day Generator Areas) B-3, B-5, B-6, B-17, B-26, B-32, B-33, B-37, B-39, B-46 (B-32W), B-48, B-55	<300 hr/yr service	Typical operation involves process waste removal, followed by solvent wash and/or water wash. Worst case drum-out is 15 min per drum. Plant drum tracking system can show, over a one year period, < 300 hr/yr drum-out time per building.
Tank truck unloading to Methyltin Slurry tank TK-052005, including PU052005B.	(TRS Permitted Areas) B-52	<300 hr/yr service	This unloading line is rarely used. Logbook entries can demonstrate <300 hours per year of service.
Hydropulper drain.	(TRS Permitted Areas) B-52	<300 hr/yr service	This line is available for the purposes of draining the hydropulper, if liquid were present. Logbook entries can demonstrate <300 hours per year of service. If used, rinse water is pumped through all equipment after draining hydropulper.
Process equipment liquid wastewater lines leading to TK-052009A/B, TK-052010 and the hydropulper. Includes pumps PU052020D/E, PU052030C, and PU052012C/D/E; feed from TK067012; valves and flanges/connectors.	(TRS Permitted Area) B-52 and (90-Day Generator Areas) B-67	Organic concentration < 10 percent by weight.	Periodic liquid wastewater sampling indicates organic concentration < 10 percent by weight. Data are maintained as waste profiles.

VII.B.5 Equipment Standards [40 CFR 264.1052 through 1062]

Table BB-2, Appendix AA BB CC -1 groups the pumps in light liquid service and subject to Subpart BB monitoring together.

All equipment subject to **40 CFR Part 264 – Subpart BB** shall comply with the appropriate equipment standard of **40 CFR Part 264 – Subpart BB**, the conditions of this Permit, and the requirements of the Leak Detection and Repair (LDAR) Program. Specifically, pumps are monitored monthly according to Reference Method 21 (40 CFR 60 Appendix A) and visually inspected each week for any sign of dripping liquids as described in **40 CFR Part 264.1052(a)**, **(b)** and **(c)** except with exemptions apply, see below.

Only valves in light liquid service can be designated difficult or unsafe to monitor pursuant to **40 CFR Part 264.1057(g)** or **(h)**. The Permittee shall not designate any other components subject to the **40 CFR Part**

264 – Subpart BB regulations as difficult or unsafe to monitor.

VII.B.5.1 Pumps in Light Liquid Service [40 CFR Part 264.1052]

VII.B.5.1.1 The Permittee shall comply with the requirements in **40 CFR Part 264.1052(a)**, **(b)** and **(c)** for monitoring, visual inspection to detect leak as well as leak repair.

VII.B.5.1.2 Each pump that is equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from **40 CFR Part 264.1052(a)**, provided each pump meets the requirements in **40 CFR Part 264.1052(d)(1)** through **(d)(6)**.

VII.B.5.1.3 Any pump that is designated, as described in **40 CFR Part 264.1064(g)(2)**, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from **40 CFR Part 264.1052(a)**, **(c)** and **(d)** if the pump meets the requirements in **40 CFR Part 264.1052(e)(1)** through **(e)(3)**.

VII.B.5.1.4 If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of **40 CFR Part 264.1060**, it is exempt from **40 CFR Part 264.1052(a)** through **(e)**.

VII.B.5.2 Compressors [40 CFR Part 264.1053]

PMC Carrollton does not currently use compressors in hazardous waste service. (Reserved)

VII.B.5.3 Pressure Relief Devices in Gas/Vapor Service [40 CFR Part 264.1054]

Attachment M Table BB-2 groups the pressure relief devices subject to Subpart BB monitoring together.

VII.B.5.3.1 Each pressure relief devices shall comply with the requirements in **40 CFR Part 264.1054(a)** and **(b)** except as provided by **40 CFR 264.1059**.

VII.B.5.3.2 Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in **40 CFR Part 264.1060** is exempt from the requirements of **40 CFR Part 264.1054(a)** and **(b)**.

VII.B.5.4 Sampling Connection Systems [40 CFR Part 264.1055]

Attachment M Table BB-3 in the complete permit application lists the sampling connection systems subject to Subpart BB.

All Sampling connections at PMC are used without purges, which satisfies the exemption described in **40 CFR 264.1055(c)**. Sampling connections shall be inspected for audio, visual, and olfactory (AVO) leak evidence monthly.

VII.B.5.4.1 Each sampling connection system shall comply with the requirements in **40 CFR Part 264.1055(a)** and **(b)** except as provided by Permit Condition VII.B.5.4.2

VII.B.5.4.2 *In-situ* sampling systems and sampling systems without purges are exempt from the requirements of **40 CFR Part 264.1055(a)** and **(b)** per **40 CFR Part 264.1055(c)**

VII.B.5.5 Open-ended Valves or Lines [40 CFR Part 264.1056]

Table BB-3 lists the open-ended valves and lines subject to Subpart BB.

VII.B.5.5.1 Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

VII.B.5.5.2 The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

VII.B.5.5.3 Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

VII.B.5.5.4 When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with *Permit Condition VII.B.5.5.1* and *Permit Condition VII.B.5.5.2* at all other times.

VII.B.5.6 Valves in Gas/Vapor service or in Light Liquid Service [40 CFR Part 264.1057]

Table BB-2 groups the valves subject to Subpart BB monitoring together.

No unsafe to monitor valves have been designated. Difficult to monitor (DTM) valves are identified in Attachment M Tables BB-1 and 2.

VII.B.5.6.1 The Permittee shall comply with the requirements in **40 CFR Part 264.1057(a)** through **(e)** for leak monitoring and repair.

VII.B.5.6.2 Any valve that is designated, as described in **40 CFR Part 264.1064(g)(2)**, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of **40 CFR Part 264.1057(a)** if the valve follows the requirements in **40 CFR Part 264.1057(f)(1)** through **(3)**.

VII.B.5.6.3 Any valve that is designated, as described in **40 CFR Part 264.1064(h)(1)**, as an unsafe-to-monitor valve is exempt from the requirements of **40 CFR Part 264.1057(a)** if the Permittee follows the requirements in **40 CFR Part 264.1057(g)(1)** and **(2)**.

VII.B.5.6.4 Any valve that is designated, as described in **40 CFR Part 264.1064(h)(2)**, as a difficult-to-monitor valve is exempt from the requirements of **40 CFR Part 264.1057(a)** if the Permittee follows the requirements in **40 CFR Part 264.1057(h)(1)** through **(3)**.

VII.B.5.7 Pumps and Valve in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid service, and Flanges and Other Connectors [40 CFR Part 264.1058]

Table BB-2 groups the connectors subject to Subpart BB monitoring together. Currently there are no pressure relief devices in liquid service but PMC has flanges and other connectors.

VII.B.5.7.1 The Permittee shall comply with the requirements in **40 CFR Part 264.1058(a)** through **(d)** for leak monitoring and repair.

VII.B.5.7.2 Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements of **40 CFR Part 264.1058(a)** and from the recordkeeping requirements of **40 CFR Part 264.1064**.

Difficult to monitor (Inaccessible) connectors are identified in Tables BB-1 and BB-2 in Appendix AA BB CC of the complete permit application and are not subject to Subpart BB monitoring in accordance with **40 CFR 264.1058(e)**.

VII.B.5.8 Delay of Repair

VII.B.5.8.1 Delays of repair shall be in accordance with the requirements of **40 CFR Part 264.1059**. A written description of the circumstances associated with the delay of repair addressing the requirements of **40 CFR Part 264.1059**, and *Permit Condition VII.B.7* of this Permit shall be maintained in the Facility's operating record.

VII.B.5.8.2 Delay of repair provisions do not apply to components exempt from all Subpart BB monitoring.

VII.B.5.9 Closed-vent Systems and Control Devices [40 CFR Part 264.1060]

No closed vent systems and control devices are being utilized to maintain compliance with Subpart BB. Should PMC select to implement closed vent systems and control devices, the KDEP must be notified and a permit modification requested.

VII.B.5.10 Alternative Standards for Valves in Gas/Vapor service or in Light Liquid Service: Percentage of Valves Allowed to Leak [40 CFR Part 264.1061]

Not Applicable at the present time. Should PMC select to apply alternative standards, KDEP must be notified. The following requirements would apply if alternative standards were implemented.

VII.B.5.11 Alternative Standards for Valves in Gas/Vapor Service or in Light Liquid Service: Skip

Period Lead Detection and Repair [40 CFR Part 264.1062]

Not Applicable at the present time. Should PMC select to apply alternative standards, KDEP must be notified. The following requirements would apply if alternative standards were implemented.

VII.B.5.11 All subpart BB equipment which functions as tank-ancillary equipment must be inspected daily in accordance with Permit Condition III.L.9

VII.B.6 Test Methods and Procedures [40 CFR Part 264.1063]

VII.B.6.1 The Permittee shall comply with the test methods and procedures of **40 CFR Part 264.1063**, the LDAR Program, for all equipment subject to **40 CFR Part 264 – Subpart BB**.

VII.B.6.2 All testing, monitoring and confirmatory sampling must be conducted during times of operation by persons trained in the proper implementation of the test methods and procedures required by **40 CFR Part 264.1063**, including, but not limited to, Method 21.

VII.B.7 Recordkeeping Requirements [40 CFR Part 264.1064]

VII.B.7.1 Records demonstrating compliance with **40 CFR Part 264 – Subpart BB**, including any third party's records, shall be maintained, accessible at the Facility or other appropriate location approved by the Division, for a period of not less than three (3) years. All records necessary for demonstrating compliance shall include, at a minimum, the required recordkeeping information in **40 CFR Part 264.1064** and this Permit.

VII.B.7.2 These records shall include, but are not limited to:

VII.B.7.2.1 The current list of regulated equipment and its physical location at the Facility, as illustrated on a Facility map and P&ID;

VII.B.7.2.2 A running log of time, by calendar year, each piece of equipment is used to manage hazardous waste with organic concentrations of at least ten (10) percent by weight;

VII.B.7.2.3 All associated operating information, specifications, and standards for each unique piece of equipment;

VII.B.7.2.4 All maintenance, inspection, leak detection, repair, and delay of repair records associated with each unique piece of equipment; and

VII.B.7.2.5 Training documentation for persons conducting inspections or monitoring.

VII.B.7.3 Records justifying valves in light liquid service designated as difficult or unsafe to monitor shall comply with **40 CFR Part 264.1057(g)** and **(h)**, be kept at the Facility or other appropriate location approved by the Division, be available for inspection at reasonable times, and

demonstrate compliance with the requirements of **40 CFR Part 264.1064(h)**.

VII.B.8 Reporting Requirements [40 CFR Part 264.1065]

VII.B.8.1 In accordance with **40 CFR Part 264.1065**, the Permittee shall prepare and submit a report semiannually to the Division at the address provided in *Permit Condition II.B.2.2,* documenting all information required by **40 CFR Part 264.1065** for each month during that semiannual reporting period.

VII.B.8.2 All information required by **40 CFR Part 264.1065** shall be submitted in the semiannual report. The semiannual report shall be submitted by January 31st and July 31st of each calendar year. A copy of the semiannual report shall be maintained in the Facility's operating record.

VII.B.8.3 If, during the semiannual reporting period, leaks from valves, pumps, and compressors are repaired as required in **40 CFR Part 264.1057(d)**, **264.1052 (c)** and **(d)(6)**, and **264.1053 (g)**, respectively, and the control device does not exceed or operate outside of the design specifications as defined in **40 CFR part 264.1064(e)** for more than 24 hours, a report to the Division is not required.

VII.B.9 Equipment Maintenance and Installation of Temporary Equipment

For the purposes of **40 CFR Part 264 – Subpart BB**, the term "Temporary Equipment" shall be defined as any equipment that has not been specifically designed and engineered as part of the original system, or equipment which was not included in the information submitted as part of the Approved Permit Application, which the Permittee has placed in service on a non-permanent basis while performing repair and/or maintenance activities on permanent equipment.

VII.B.9.1 Temporary equipment installed during maintenance or repair activities, including preventative maintenance activities, shall be noted in the daily inspection log in the Facility's operating record. The notation shall include the date the maintenance or repair began, the date the maintenance or repair is expected to be completed, the equipment identification numbers replaced during the maintenance or repair activity, and a brief statement describing the installation and use of the temporary equipment.

VII.B.9.2 All temporary equipment shall be designed and equipped to: ensure it will fulfill its intended functions without failure or release; perform equivalently to the equipment it is temporarily replacing to prevent performance upsets, releases of hazardous waste, fire or explosion; not jeopardize the safety of personnel, surrounding equipment or the environment; be compatible with the waste; and withstand environmental conditions at the Facility.

VII.B.9.3 Temporary equipment shall be utilized on a temporary basis and shall not be used as a permanent part of the hazardous waste management unit or system, and shall not be considered a completed repair. Temporary equipment shall not remain in use longer than the timeframe allowed in the leak repair standard for the original equipment type, unless the standards of **40 CFR Part 264.1059**, have been met.

VII.B.9.4 Preventative maintenance activities shall be treated as a potential leak for purposes of the

standards, monitoring and recordkeeping requirements of **40 CFR Part 264 – Subpart BB**.

VII.C AIR EMISSION STANDARDS FOR TANKS, SURFACE IMPOUNDMENTS, CONTAINERS AND MISCELLANEOUS UNITS

VII.C.1 **40 CFR Part 264 – Subpart CC** contains air emissions standards for hazardous waste surface impoundments, tanks, miscellaneous units, and containers that contact hazardous waste containing an average volatile organic concentration greater than 500 parts per million (ppm) by weight at the point of waste origination, as determined by the procedures outlined in **40 CFR Part 264.1083(a)**, except as excluded by **40 CFR Part 264.1080(b)** or specifically exempted by **40 CFR Part 264.1082(c)**. In addition to the types of hazardous waste management units mentioned above, the requirements of **40 CFR Part 264 – Subpart CC** also apply to their covers, closure devices, and control devices.

Equipment subject to **Subpart CC** requirements are listed in *Table VII.3* below.

Table VII.3

Hazardous Waste Management Unit	Brief Unit Description	Brief Waste Description (EPA Waste Code)	Unit Type	Location	Control Device and/or Control Level
TK-05204A Tank	Solvent	See Attachment C Table C-1.1	Tank	West of Bldg B52, see Attachment D Fig D-2.1b	Fixed roof per §264.1084(c)(2)
TK-05209A Tank	Slurry	See Attachment C Table C-1.1	Tank	West of Bldg B52, see Attachment D Fig D-2.1b	Fixed roof per §264.1084(c)(2)
TK-05209B Tank	Slurry	See Attachment C Table C-1.1	Tank	West of Bldg B52, see Attachment D Fig D-2.1b	Fixed roof per §264.1084(c)(2)
TK-052010 Tank	Slurry	See Attachment C Table C-1.1	Tank	West of Bldg B52, see Attachment D Fig D-2.1b	Fixed roof per §264.1084(c)(2)
B-64, B-65 Waste Storage Pads, Tank Truck Unloading Ramp	Containers storing liquids (>26.4 and <121 gal)	See Attachment C Table C-1.1	Containers	E, N and W of Bldg B52, see Attachment D Fig D-2.1b	Closed container with no visible gaps or openings
	Containers storing liquids (>121 gal)				DOT-compliant container
	Containers storing solids (>26.4 and <121 gal)				Closed container with no visible gaps or openings
	Containers storing solids (>121 gal)				Closed container with no visible gaps or openings
HY-052020 Tank	Hydropulper	See Attachment C Table C-1.1	Tank	West of Bldg B52, see Fig Attachment D D-2.1b	Vent to control device
TK-052005	90 Day Tank	See Attachment C Table C-1.1	Tank	West of Bldg B52, see Attachment D Fig D-2.1b	Fixed roof per §264.1084(c)(2)
TK-017009	90 Day tank	See Attachment C Table C-1.1	Tank	West of Bldg B52, see Attachment D	Fixed roof per §264.1084(c)(2)

Table VII.3					
Hazardous Waste Management Unit	**Brief Unit Description**	**Brief Waste Description (EPA Waste Code)**	**Unit Type**	**Location**	**Control Device and/or Control Level**
				Fig D-2.1b	

VII.C.2 Notification of Modifications, Additions, or New Units

Prior to installing or operating a tank, container, surface impoundment, miscellaneous unit, closed vent system, or control device subject to **40 CFR Part 264 – Subpart CC**, or modifying any existing unit, equipment, procedure, or process such that the unit(s) or equipment will become subject to **40 CFR Part 264 – Subpart CC**, the Permittee shall apply for a permit modification in accordance with *Permit Condition II.B.1* and *Permit Condition II.B.4.*

VII.C.3 Excluded Units [40 CFR Part 264.1080(b)]

VII.C.3.1 Should conditions change such that the Permittee intends to claim an exclusion from Subpart CC, the Permittee shall immediately notify the Division per *Permit Conditions II.E.7, II.E.10* and *II.E.11* of this Permit and shall comply with the requirements of **40 CFR Part 264 – Subpart CC**.

VII.C.3.2 The Permittee currently does not have any hazardous waste management units which are excluded from the **40 CFR. Part 264 – Subpart CC** standards.

VII.C.4 Exempted Units [40 CFR Part 264.1082(c)]

The Permittee currently does not have any tanks, surface impoundments, or containers that are exempted from the **40 CFR Part 264.1084** through **1087** standards by **40 CFR Part 264.1082(c)**.

VII.C.5 Waste Determination Procedures [40 CFR Part 264.1083]

The Permittee must follow the waste determination procedures of **40 CFR Part 264.1083** and ***Attachment C***.

VII.C.6 Standards: General [40 CFR Part 264.1082]

Each unit subject to **40 CFR Part 264 – Subpart CC** shall comply with the appropriate standard applicable to the hazardous waste management unit.

VII.C.7 Standards: Tanks [40 CFR Part 264.1084]

VII.C.7.1 For a tank that manages hazardous waste that meets all of the conditions specified in **40 CFR Part 264.1084(b)(1)(i)** through **(b)(1)(iii)**, the Permittee shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in **40 CFR Part 264.1084(c)**. See

Table VII.3 for Subpart CC tank controls.

VII.C.7.2 The Permittee who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in **40 CFR Part 264.1084(g)(1)** through **(g)(3)**. See Table VII.3 for Subpart CC tank controls. The control device associated with the Hydropulper, HY-052020, is regulated under PMC's Title V Permit V-18-012.

VII.C.7.3 The Permittee shall transfer hazardous waste to a tank subject to **40 CFR Part 264.1084** in accordance with the requirements in **40 CFR 264.1084(j)(1)** and **(j)(2)**.

VII.C.7.4 The Permittee shall repair each defect detected during an inspection in accordance with the requirements in **40 CFR Part 264.1084(k)(1)** and **(k)(2)**.

VII.C.7.5 Following the initial inspection and monitoring of the cover as required by the applicable requirements in **40 CFR 264 – Subpart CC**, subsequent inspection and monitoring may be performed at intervals longer than 1 year under the following special conditions specified in **40 CFR Part 264.1084(l)(1)** and **(l)(2)**.

VII.C.8 Standards: Surface Impoundments [40 CFR Part 264.1085]: RESERVED

VII.C.9 Standards: Containers [40 CFR Part 264.1086]

VII.C.9.1 For a container having a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3, the Permittee shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in **40 CFR Part 264.1086(c)**.

To comply with **40 CFR Part 264.1086(c)(1)(i)**, containers shall be used that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation in accordance with **40 CFR Part 264.1086(f)(1)** through **(f)(4)**.

VII.C.9.2 The permittee uses containers having a design capacity greater than 0.46 m^3 for light material service. The Permittee shall control air pollutant emissions from these containers in accordance with the Container Level 2 standards specified in **40 CFR Part 264.1086(d)**.

VII.C.9.2.1 To comply with **40 CFR Part 264.1086(d)(1)(i)**, containers shall be used that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation in accordance with **40 CFR Part 264.1086(f)(1)** through **(f)(4)**.

VII.C.9.2.2 To determine compliance with the no detectable organic emissions requirement of **40 CFR Part 264.1086(d)(1)(ii)**, the procedure specified in **40 CFR Part 264.1083(d)** shall be used and in accordance with **40 CFR Part 264.1086(g)(1)** and **(g)(2)**.

VII.C.9.3 The Permittee shall follow the procedure specified in **40 CFR Part 264.1086(h)** in determining a container to be vapor-tight.

VII.C.10 Standards: Closed-vent systems and control devices [40 CFR Part 264.1087]

The intent of the possible permit conditions is being met by the permit under the state's Division of Air Quality Title V air permit (V-18-012). See *Attachment M*, Standards: Closed-Vent Systems and Control Devices to see how the following typical permit conditions are being met under the Air Quality permit. If the 40 CFR 264 Subpart CC control device requirements described in the complete permit application are no longer addressed through an Air Quality Permit, the RCRA permit shall be modified so that the referenced requirements are met under the Hazardous Waste permit.

VII.C.10.1 The closed-vent system shall follow the design and operating requirements in **40 CFR Part 264.1087(b)**.

VII.C.10.2 The closed-vent system shall be inspected and monitored in accordance with the procedure specified in **40 CFR Part 264.1033(l)**.

VII.C.10.3 The Permittee shall operate a control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight **OR** an enclosed combustion device designed and operated in accordance with the requirements in **40 CFR Part 264.1033(c) OR** a flare designed and operated in accordance with the requirements in **40 CFR Part 264.1033(d)**.

VII.C.10.3.1 Permittee using a carbon adsorption system shall operate and maintain the control device in accordance with the requirements in **40 CFR Part 264.1087(c)(3)(i)** and **(c)(3)(ii)**.

VII.C.10.3.1 Permittee using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system shall operate and maintain the control device in accordance with the requirements in **40 CFR Part 264.1033(j)**.

VII.C.10.3.2 The Permittee shall comply with the control device performance requirements specified in **40 CFR Part 264.1087(c)(5)**.

VII.C.10.4 The Permittee shall follow the maintenance and malfunction requirements in **40 CFR Part 264.1087(c)(2)**.

VII.C.11 Inspection and Monitoring Requirements [40 CFR Part 264.1088]

VII.C.11.1 The Permittee shall comply with the inspection and monitoring requirements of **40 CFR Part 264.1088**, this Permit, and *Attachment F* Inspections Items and Schedule of the Approved Permit Application.

VII.C.11.2 All inspections and monitoring must be conducted at times when the hazardous waste management unit or equipment is in operation, and by qualified persons with the appropriate training.

VII.C.12 Recordkeeping Requirements [40 CFR Part 264.1089]

VII.C.12.1 Records demonstrating compliance with **40 CFR Part 264 – Subpart CC**, including any third party's records, shall be maintained, accessible at the Facility or other appropriate location approved by the Division, for a period of not less than three (3) years. All records necessary for demonstrating compliance shall include, at a minimum, the required recordkeeping information in **40 CFR Part 264.1089** and this Permit.

The recordkeeping required by KDEP Division for Air Quality Title V air permit shares many requirements with the recordkeeping required under 40 CFR 264.1089(e) and 40 CFR 264.1035. As stated in the approved permit application, PMC will maintain a unified set of records that satisfies both applicable regulations. Where there are differences in the requirements, the RCRA recordkeeping requirements are maintained solely in the RCRA operating record.

VII.C.12.2 These records shall include but are not limited to the:

VII.C.12.2.1 Current list of regulated hazardous waste management units and their unique identification number, covers, closure and control devices and their physical location at the Facility as illustrated on a P&ID and/or Facility Map;

VII.C.12.2.2 All associated operating information, specifications, and standards for each hazardous waste management unit;

VII.C.12.2.3 Annual waste determinations beginning when and if PMC chooses to demonstrate a waste stream contains an average VOC content of less than 500 ppm in order to exclude a hazardous waste management unit from regulation under Subpart CC

VII.C.12.2.4 All maintenance, inspection, leak detection and repair records associated with each hazardous waste management unit; and

VII.C.12.2.5 Training documentation for persons conducting inspections or monitoring.

VII.C.12.3 Records justifying covers designated as unsafe to inspect or monitor shall comply with **40 CFR Part 264.1084(l)** or **264.1085(g)**, be kept at the Facility or other appropriate location approved by the Division, be available for inspection at reasonable times, and demonstrate compliance with the requirements of **40 CFR Part 264.1089(g)**.

PMC has not designated any closed vent system components as unsafe to monitor as defined by 40 CFR 264.1033(o). Therefore, recordkeeping to address unsafe-to-monitor components, required by 40 CFR 264.1035(c)(9), is not applicable.

VII.C.13 Reporting Requirements [40 CFR Part 264.1090]

VII.C.13.1 In accordance with **40 CFR Part 264.1090(a)** and **(b)**, the Permittee shall prepare and submit a report within fifteen (15) calendar days to the Division documenting each occurrence of noncompliance.

VII.C.13.2 In accordance with **40 CFR Part 264.1090(c)**, the Permittee shall submit a report semiannually to the Division documenting, for control devices operating in accordance with **40 CFR Part 264.1087**, each instance where the control device could not be returned to compliance within twenty-four (24) hours and the actions taken to correct the noncompliance.

VII.C.13.3 A report to the Division in accordance with *Permit Condition VII.C.13.2* is not required for a 6-month period during which all control devices subject to **40 CFR Part 264 - Subpart CC** are operated by the Permittee such that: [**40 CFR Part 264.1090(d)]**

VII.C.13.3.1 During no period of 24 hours or longer did a control device operate continuously in noncompliance with the applicable operating values defined in **40 CFR Part 264.1035(c)(4)**; and

VII.C.13.3.2 No flare was operated with visible emissions for 5 minutes or longer in a two-hour period, as defined in **40 CFR Part 264.1033(d)**.

VII.C.13.4 The semiannual report shall be submitted by January 31st and July 31st of each calendar year to the Division at the address specified in *Permit Condition II.B.2.2*.

E N D O F P E R M I T C O N D I T I O N S

PART VIII REFERENCED ATTACHMENTS & APPENDICES

PART VIII
REFERENCED ATTACHMENTS AND APPENDICES
(Available In Volume 2 & 3 of the Hazardous Waste Management Permit)

The terms and conditions of this Permit are applicable to PMC Organometallix Inc. under Title 401 KAR Chapters 39 and 40, of the Hazardous Waste Management Regulations of the Kentucky Administrative Regulations (KARs).

The Code of Federal Regulations (CFRs) cited in this Permit shall be as established in 401 KAR Chapter 39.

Attachments A through *M* are located in the approved RCRA Part B Permit application, most recently revised on Month-Day-Year.

VIII.A	**Attachment A:**	**Part A Permit Application**
VIII.B	**Attachment B:**	**Facility Description**
VIII.C	**Attachment C:**	**Waste Analysis Plan**
VIII.D	**Attachment D:**	**Process Information**
VIII.E	**Attachment E:**	**Groundwater Monitoring and Corrective Action**
VIII.F	**Attachment F:**	**Procedures to Prevent Hazards**
VIII.G	**Attachment G:**	**Contingency Plan**
VIII.H	**Attachment H:**	**Personnel Training**
VIII.I	**Attachment I:**	**Closure Plans, Post-Closure Plans, and Financial Requirements**
VIII.J	**Attachment J:**	**Other Federal Laws**
VIII.K	**Attachment K:**	**Waste Minimization Plan**
VIII.L	**Attachment L:**	**Signature Certification**
VII.M	**Attachment M:**	**Subpart AA BB CC**
VIII.AA	**Appendix 1:**	**SWMUs and AOCs**

VIII.BB Appendix 2: SWMUs and AOCs Requiring No Further Investigation

VIII.CC Appendix 3: SWMUs and AOCs Requiring Confirmatory Sampling

VIII.DD Appendix 4: SWMUs and AOCs Requiring Facility Investigation

VIII.EE Appendix 5: SWMUs and AOCs Requiring Interim Measures

VIII.FF Appendix 6: SWMUs and AOCs Requiring Corrective Measures

VIII.GG Appendix 7: SWMUs and AOCs Requiring Land Controls

VIII.HH Appendix 8: RCRA Facility Investigation (RFI) – Work Plan Outline

VIII.II Appendix 9: Corrective Measure Study (CMS) Outline

VIII.JJ Appendix 10: Corrective Action Schedule of Compliance

VIII.KK Appendix 11: Site Management Plan

VIII.LL Appendix 12: Sampling and Analysis Plan

VIII.MM Appendix 13: Finalized Environmental Covenant

APPENDIX 1

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS)

See Attachment E Table E-9.2 which lists the following SWMUs and AOCs

1. Former East Tank Farm (SWMU 22), Arkema
2. B-3 Hot Spot (part of SWMU 69), Arkema
3. Perched Water Area (AOC P), Arkema
4. North Side Tin Recovery System (TRS) Concrete Pad Area (AOC Q), Arkema
5. Wastewater Tank (TK6702) Spill Area (AOC S), PMC Organometallix
6. Sodium Hydroxide Spill Area B6/B38 (AOC T), PMC Organometallix

APPENDIX 2

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING NO FURTHER INVESTIGATION

See Attachment E, Table E-9.1 SWMU and AOCS Identified for No Further Action

APPENDIX 3

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING CONFIRMATORY SAMPLING

1. AOC T- B6/B38 Sodium Hydroxide Spill Area has a confirmatory sampling work plan, PMC Organometallix

2. AOC S- Wastewater Tank (TK6702) Spill Area, PMC Organometallix

APPENDIX 4

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING FACILITY INVESTIGATION

(None)

APPENDIX 5

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING INTERIM MEASURES

(None)

APPENDIX 6

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING CORRECTIVE MEASURES

1. Former East Tank Farm (SWMU 22), Arkema
2. B-3 Hot Spot (part of SWMU 69), Arkema
3. Perched Water Area (AOC P), Arkema
4. North Side Tin Recovery System (TRS) Concrete Pad Area (AOC Q), Arkema

APPENDIX 7

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUS) AND AREAS OF CONCERN (AOCS) REQUIRING LAND CONTROLS

1. SWMU 22- Former East Tank Farm, Arkema
2. SWMU 69- B-3 Hot Spot (Process Sewers), Arkema
3. AOC P- Perched Water Area, Arkema
4. AOC Q- North Side TRS (B-52) Concrete Area, Arkema

APPENDIX 8

RCRA FACILITY INVESTIGATION (RFI) PLANS

I. RFI WORKPLAN REQUIREMENTS

The Permittee shall prepare a RCRA Facility Investigation (RFI) workplan that meets the requirements of Part IV of this document. This attachment is provided as guidance for the development of the RFI workplan.

A. Project Management Plan

The Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules, and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.

B. Sampling and Analysis Plan(s)

The Permittee shall prepare a plan to document all monitoring procedures and sample analysis performed during the investigation to characterize the environmental setting, source, and releases of hazardous constituents, so as to ensure that all information and data are valid and properly documented. The Sampling Strategy and Procedures shall be in accordance with Characterization of Hazardous Waste Sites A Methods Manual: Volume II. Available Sampling Methods , EPA-600/4-84-076, or EPA Region IV Engineering Support Branch's Standard Operating Procedure and Quality Assurance Manual (SOP). Any deviations from these references must be requested by the applicant and approved by the Division. The Sampling and Analysis Plan must specifically discuss the following unless the EPA-600/4-84-076 or SOP procedures are specifically referenced.

1. Sampling Strategy

The sampling section of the Sampling and Analysis Plan shall be at a minimum discuss:

a. Selecting appropriate sampling locations, depths, etc.;

b. Obtaining all necessary Ancillary data;

c. Determining conditions under which sampling should be conducted;

d. Determining which media are to be sampled (e.g., groundwater, air, soil, sediment, etc.) and the parameters to the sampled for;

e. Selecting the frequency of sampling and length of sampling period;

f. Selecting the types of samples (e.g., composites vs. grabs) and number of samples to be collected.

2. Sampling Procedures

a. Documenting field sampling operations and procedures, including

i) Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, preservatives, and absorbing reagents);

ii) Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;

iii) Documentation of specific sample preservation method;

iv) Calibration of field instruments;

v) Submission of field-biased blanks, where appropriate;

vi) Potential interferences present at the facility;

vii) Field equipment listing and sampling containers;

viii) Sampling order; and

b. Selecting appropriate sample containers;

c. Sampling preservation; and

d. Chain-of-Custody, including:

i) Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and

ii) Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Sampling Procedures

Sample Analysis shall be conducted in accordance with SW-846: "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods." The sample analysis section of the Sampling and Analysis Plan Shall specify the following:

a. Chain-of Custody procedures, including:

i) Identification of a responsible party to act as sampling custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

ii) Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and

iii) Specification of laboratory sample custody procedures for sample handling, storage, and disbursement for analysis.

b. Sample storage;

c. Sample preparation methods;

d. Analytical procedures, including:

   i) Scope and application of the procedure;

   ii) Sample matrix

   iii) Potential interferences;

   iv) Precision and accuracy of the methodology; and

   v) Method detection limits.

e. Calibration procedures and frequency;

f. data reduction, validation and reporting;

g. Internal quality control checks, laboratory performance and systems audits and frequency, including:

   i) Method blank(s);

   ii) Laboratory control sample(s);

   iii) Calibration check sample(s);

   iv) Replicate Sample(s);

   v) Matrix-spiked sample(s);

   vi) Control charts;

   vii) Surrogate sample(s);

   viii) Zero and span gases; and

   ix) Reagent quality control checks.

h. Preventive maintenance procedures and schedules;

i. Corrective action (for laboratory problems);

j. Turnaround time.

C. Data Management Plan

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

   The data record shall include the following:

   a. Unique sample or field measurements code;

   b. Sampling or field measurement location and sample or measurement type;

   c. Sampling or field measurement raw data;

   d. Laboratory analysis ID number;

   e. Property or component measured; and

   f. Result of analysis (e.g., concentration).

2. Tabular Displays

   The following data shall be presented in tabular displays:

   a. Unsorted (raw) data;

   b. Results for each medium, or for each constituent monitored;

   c. Data reduction for statistical analysis, as appropriate;

   d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and

   e. Summary data

3. Graphical Displays

   The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

   a. Display sampling location and sampling grid:

   b. Indicate boundaries of sampling area, and area where more data are required;

   c. Display geographical extent of contamination;

   d. Illustrate changes in concentration in relation to distances from the source, time, depth or other parameter; and

   e. Indicate features affecting intramedia transport and show potential receptors.

II. RCRA FACILITY INVESTIGATION (RFI) REQUIREMENTS

RCRA Facility Investigation:

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of release of hazardous constituents (Contamination Characterization); and identify actual or potential receptors.

The investigations should result in data of adequate technical content and quality to support the development and evaluation of the corrective action plan if necessary. The information contained in RCRA Part B permit Application and/or RCRA 3019 Exposure Information Report may be referenced as appropriate.

All sampling and analyses shall be conducted in accordance with the Sampling and Analysis Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

A. Environmental Setting

The Permittee shall collect information to supplement and/or verify Part B information on the environmental setting at the facility. The Permittee shall characterize the following as they relate to identified sources, pathways and areas of releases of hazardous constituents from Solid Waste Management Units.

1. Hydrogeology

The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:

a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting ground-water flow beneath the facility, including:

i) Regional and facility specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts:

ii) Structural geology: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);

iii) Depositional history;

iv) Regional and facility specific ground-water flow patterns; and

v) Identification and characterization of areas and amounts of recharge and discharge.

b. An analysis of any topographic features that might influence the groundwater flow system.

c. Based on field data, tests, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:

i) Hydraulic conductivity and porosity (total and effective);

ii) Lithology, grain size, sorting, degree of cementation;

iii) An interpretation of hydraulic interconnections between saturated zones; and

iv) The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content etc.).

d. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:

i) Water-level contour and/or potentiometric maps;

ii) Hydrologic cross sections showing vertical gradients;

iii) The flow system, including the vertical and horizontal components of flow; and

iv) Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.

e. A description of manmade influences that may affect the hydrology of the site, indentifying:

i) Local water-supply and production wells with an approximate schedule of pumping; and

ii) Manmade hydraulic structures (pipelines, french drains, ditches, etc.).

2. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of contaminant release(s). Such characterization may include, but not be limited to, the following types of information as appropriate:

a. Surface soil distribution;
b. Soil profile, including ASTM classification of soils;
c. Transects of soil stratigraphy;
d. Hydraulic conductivity (saturated and unsaturated);
e. Relative permeability;
f. Bulk density;
g. Porosity;
h. Soil sorptive capacity;
i. Cation exchange capacity (CEC);
j. Soil organic content;
k. Soil pH;
l. Particle size distribution
m. Depth of water table;
n. Moisture content;
o. Effect of stratification on unsaturated flow;
p. Infiltration;
q. Evapotranspiration;
r. Storage capacity;
s. Vertical flow rate; and
t. Mineral content.

3. Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterization may include, but not be limited to, the following activities and information:

a. Description of the temporal and permanent surface water bodies including:

i) For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;

ii) For impoundment: location, elevation, surface area, depth, volume, freeboard, and construction and purpose;

iii) For streams, ditches, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies (i.e., 100 year event), discharge points(s), and general contents

iv) Drainage patterns; and

v) Evapotranspiration.

b. Description of the chemistry of the natural surface water and sediments: This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients (NH3, N03-/N02-, P0-3); chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.

c. Description of sediment characteristics including:

i) Deposition area;

ii) Thickness profile; and

iii) Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.)

4. Air

The Permittee shall provide information characterizing the climate in the vicinity of the facility. Such information may include, but not be limited to:

a. A description of the following parameters:

i) Annual and monthly rainfall averages;

ii) Monthly temperature averages and extremes;

iii) Wind speed and direction;

iv) Relative humidity/dew point;

v) Atmospheric pressure;

vi) Evaporation data;

vii) Development of inversions; and

viii) Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence. (i.e. Hurricanes)

b. A description of topographic and manmade features which affect air flow and emission patterns, including:

i) Ridges, hills or mountain areas;

ii) Canyons or valleys;

iii) Surface water bodies (e.g., rivers, lakes, bays, etc.);

iv) Buildings.

B. Source Characterization

For those sources from which releases of hazardous constituents have been detected the Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, to the degree that is possible without undue safety risks, including: type, quantity; physical form; disposition (containment or nature of deposits); and facility characteristics affecting release (e.g., facility security, and engineering barriers). This shall include quantification of the following specific characteristics, at each source area:

1. Unit/Disposal Area Characteristics:

   a. Location of unit/disposal area;
   b. Type of unit/disposal area;
   c. Design features;
   d. Operating practices (past and present);
   e. Period of operation;
   f. Age of unit/disposal area;
   g. General physical conditions; and
   h. Method used to close the unit/disposal area.

2. Waste Characteristics:

   a. Type of wastes placed in the unit;

      i) Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing or reducing agent);

      ii) Quantity; and

      iii) Chemical composition

   b. Physical and chemical characteristics such as;

      i) Physical form (solid, liquid, gas);

      ii) Physical description (e.g., powder, oily sludge);

      iii) Temperature;

      iv) PH;

      v) General chemical class (e.g., acid, base, solvent);

      vi) Molecular Weight;

vii) Density;

viii) Boiling point;

ix) Viscosity;

x) Solubility in water;

xi) Cohesiveness of the Waste; and

xii) Vapor pressure.

c. Migration and dispersal characteristics of the waste such as;

i) Sorption capability;

ii) Biodegradability, bioconcentration, biotransformation;

iii) Photodegradation rates;

iv) Hydrolysis rates; and

v) Chemical transformations.

The Permittee shall document the procedures used in making the above determinations.

C. Characterization of Releases of Hazardous Constituents

The Permittee shall collect analytical data on groundwater, soils, surface water, sediment, and subsurface gas contamination in the vicinity of the facility in accordance with the sampling and analysis plan as required above. These data shall be sufficient to define the extent, origin, direction, and rate of movement of contamination. Data shall include time and location of sampling, media sampled, concentrations found, conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Permittee shall address the following types of contamination at the facility:

1. Groundwater Contamination

The Permittee shall conduct a groundwater investigation to characterize any plumes of contamination detected at the facility. This investigation shall at a minimum provide the following information:

a. A description of the horizontal and vertical extent of any plume(s) of hazardous constituents originating from the facility;

b. The horizontal and vertical direction of contamination movement;

c. The velocity of contaminant movement;

d. The horizontal and vertical concentration profiles of hazardous constituents in the plume(s);

e. An evaluation of factors influencing the plume movement; and

f. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations (e.g., well design, well construction, geophysics, modeling, etc.).

2. Soil Contamination

The Permittee shall conduct an investigation to characterize the contamination of the soil and rock units above the saturated zone in the vicinity of any contaminant release. The investigation may include the following information:

a. A description of the vertical and horizontal extent of contamination;

b. A description of appropriate contaminant and soil chemical properties within the contaminant source area and plume. This may include contaminant solubility, speciation, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation;

c. Specific contaminant concentration;

d. The velocity and direction of contamination movement; and

e. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations.

3. Surface Water and Sediment Contamination

The Permittee shall conduct a surface water investigation to characterize contamination in surface water bodies resulting from releases of hazardous constituents at the facility.

The investigation may include, but not be limited to, the following information:

a. A description of the horizontal and vertical extent of any plume(s) originating from the facility, and the extent of contamination in underlying sediments;

b. The horizontal and vertical direction of contaminant movement;

c. The contaminant velocity;

d. An evaluation of the physical, biological and chemical factors influencing contaminant movement;

e. An extrapolation of future contaminant movement; and

f. A description of the chemistry of the contaminated surface waters and sediments. This includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.

4. Air Contamination

The Permittee shall conduct an investigation to characterize gaseous releases of hazardous constituents into the atmosphere or any structures or buildings. This investigation may provide the following information:

a. A description of the horizontal and vertical direction and velocity of contaminant movement;

b. The rate and amount of the release; and

c. The chemical and physical composition of the contaminant(s) released, including horizontal and vertical concentration profiles.

The Permittee shall document the procedures used in making the above determinations.

D. Potential Receptors

The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples and/or data on observable effects in ecosystems may also be obtained as appropriate. The following characteristics shall be identified:

1. Current local uses and planned future uses of groundwater:

    a. Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and

    b. Location of groundwater users, to include withdrawal and discharge wells, within one mile of the impacted area.

    The above information should also indicate the aquifer or hydrogeologic unit used and/or impacted from each item.

2. Current local uses and planned future uses of surface waters directly impacted by the facility:

    a. Domestic and municipal (e.g., potable and lawn/gardening watering);

    b. Recreational (e.g., swimming, fishing);

    c. Agricultural;

    d. Industrial; and

    e. Environmental (e.g., fish and wildlife propagation).

3. Human use of or access to the facility and adjacent lands, including but not limited to:

    a. Recreation;

    b. Hunting;

    c. Residential

    d. Commercial; and

e. Relationship between population locations and prevailing wind direction.

4. A general description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A general description of the ecology within and adjacent to the facility.

6. A general demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.

7. A description of any known or documented endangered or threatened species near the facility.

APPENDIX 9

CORRECTIVE MEASURE STUDY (CMS) PLAN OUTLINE

I. Identification and Development of the Corrective Measure Alternatives

- A. Description of Current Situation
- B. Establishment of Corrective Action Objectives
- C. Screening of Corrective Measures Technologies
- D. Identification of the Corrective Measure Alternatives

II. Evaluation of the Corrective Measure Alternatives

- A. Technical/Environmental/Human Health/Institutional
- B. Cost Estimate

III. Justification and Recommendation of the Corrective Measure or Measures

- A. Technical
- B. Human Health
- C. Environmental

IV. Reports

- A. Draft
- B. Final
- C. Public Review and Final Selection of Corrective Measure

I. IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE MEASURES ALTERNATIVES

Based on the results of the RCRA Facility Investigation and consideration of the identified potential corrective measure technologies, the Permittee shall identify, screen and develop the alternatives for removal, containment, treatment and/or other remediation of the contamination based on the objectives established for the corrective action.

A. Description of Current Situation

The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation (RFI) Report. The Permittee shall provide an update to information presented in the RFI regarding previous response activities and interim measures which have or are being implemented at the facility. The Permittee shall also make a facility specific statement of the purpose for the response, based on the results of the RFI. The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

B. Establishment of Corrective Action Objectives

The Permittee shall propose facility-specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA guidance, and the requirements of any applicable Federal statutes. At a minimum, all corrective actions concerning ground water releases from regulated units must be consistent with, and as stringent as, those required under 401 KAR 34:060, Section 11 (eff. 3-12-97).

C. Screening of Corrective Measure Technologies

The Permittee shall review the results of the RFI and assess the technologies which are applicable at the facility. The Permittee shall screen the corrective measure technologies to eliminate those that may prove not to be feasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations.

Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Site Characteristics

   Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration.

2. Waste Characteristics

   Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site).

3. Technology Limitations

   During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

D. Identification of the Corrective Measure Alternatives

The Permittee shall develop the Corrective measure alternatives based on the corrective action objectives and analysis of potential corrective measure technologies. The Permittee shall rely on engineering practice to determine which of the previously identified technologies appear most suitable for the site. Technologies can be combined to form the overall corrective action alternatives. The alternatives developed should represent a workable number of option(s) that each appear to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies. The CMS should focus on realistic remedies that are site specific and tailored in scope and substance based on the extent, nature and complexity of releases and contamination.

II. EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVES

The Permittee shall describe each corrective measure alternative that passes through the initial screening and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

A. Technical/Environmental/Human Health/Institutional

The Permittee shall provide a description of each corrective measure alternative which includes but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:

1. Technical

The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability and safety.

a. The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:

i Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies;

ii Useful life is defined as the length of time the level of desired effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

b. The Permittee shall provide information on the reliability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:

i. Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straightforward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered;

ii Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Respondent should evaluate whether the technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.

c. The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response:

i Constructability is determined by conditions both internal and external to the facility conditions and include such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and

ii Time has two components that shall be addressed: the time it takes to implement a corrective measure and the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental

The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The

Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short-term and long-term beneficial and adverse effects of the response alternative; any adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.

3. Human Health

The Permittee shall assess each alternative in terms of the extent to which it mitigates short term and long term potential exposure to any residual contamination and protects human health both during and after implementation of the corrective measure. The assessment will describe the concentrations and characteristics of the contaminants onsite, potential exposure routes, and potentially affected population. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to the Kentucky Division of Waste Management.

4. Institutional

The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, state and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative. If the selected remedy is capping and closure in place, a notation must be made in the land deed.

B. Cost Estimate

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs.

1. Capital costs consist of direct (construction) and indirect (nonconstruction and overhead) costs.

    a. Direct capital costs include:

        i Construction costs: Costs of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure.

        ii Equipment costs: Costs of treatment, containment, disposal and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;

        iii Land and site development costs: Expenses associated with purchase of land and development of existing property; and

        iv Buildings and services costs: Costs of process and nonprocess buildings, utility connections, purchased services, and disposal costs.

    b. Indirect capital costs include:

        i Engineering expenses: Costs of administration, design, construction supervision, drafting, testing of corrective measure alternatives;

        ii Legal fees and license or permit costs: Administrative and technical costs necessary to obtain licenses and permits for installation and operation;

        iii Startup and shakedown costs: Costs incurred during corrective measure startup; and

        iv Contingency allowances: Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.

2. Operation and maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:

    a. Operating labor costs: Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post construction operations;

    b. Maintenance materials and labor costs: Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;

    c. Auxiliary materials and energy: Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;

    d. Purchased services: Sampling costs, laboratory fees, and professional fees for which the need can be predicted;

    e. Disposal and treatment costs: Cost of transporting, treating, and disposing of waste materials, like treatment plant residues, generated during operations;

    f. Administrative costs: Costs associated with administration of corrective measure operation and maintenance not included under other categories;

    g. Insurance, taxes, and licensing costs: Costs of such items as liability and sudden accident insurance; real

estate taxes on purchased land or right-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;

h. Maintenance reserve and contingency funds: Annual payments into escrow funds to cover:

1) costs of anticipated replacement or rebuilding of equipment;

2) any large unanticipated operation and maintenance costs; and

i. Other costs: Items that do not fit any of the above categories.

III. JUSTIFICATION AND RECOMMENDATION OF THE CORRECTIVE MEASURE OR MEASURES

The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Trade-offs among health risks, environmental effects, and other pertinent factors shall be highlighted. The Director will select the corrective measure alternative or alternatives to be implemented based on the results obtained from work completed under Section II and III. At a minimum, the following criteria will be used to justify the final corrective measure or measures.

A. Technical

1. Performance-corrective measure or measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;

2. Reliability-corrective measure or measures which do not require frequent or complex operation and maintenance activities and that have proved effective under waste and facility conditions similar to those anticipated will be given preference;

3. Implementability-corrective measure or measures which can be constructed and operating to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and

4. Safety-corrective measure or measures which pose the least threat to the safety of nearby residents and environments as well as workers during implementation will be preferred.

B. Human Health

The corrective measure(s) must comply with existing U.S. EPA criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

C. Environmental

The corrective measure(s) posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

IV. REPORTS

The Permittee shall prepare a Corrective Measure Study Report presenting the results obtained from Sections I through III and recommending a corrective measure alternative. Copies of the preliminary report shall be provided by the Permittee to the Director for review and approval.

A. Draft

The Report shall at a minimum include:

1. A description of the facility;

    a. Site topographic map & preliminary layouts.

2. A summary of the corrective measure(s) and rationale for selection;

    a. Description of the corrective measure(s) and rationale for selection;

    b. Performance expectations;

    c. Preliminary design criteria and rationale;

    d. General operation and maintenance requirements; and

    e. Long-term monitoring requirements.

3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure or measures;
    a. Field studies (groundwater, surface water, soil, air); and

    b. Laboratory studies (bench scale, pick scale).

4. Design and Implementation Precautions;

    a. Special technical problems;

    b. Additional engineering data required;

    c. Permits and regulatory requirements;

    d. Access, easements, right-of-way;

    e. Health and safety requirements; and

    f. Community relations activities.

5. Cost Estimates and Schedules;

    a. Capitol cost estimate;

    b. Operation and maintenance cost estimate; and

    c. Project schedule (design, construction, operation).

Copies of the draft shall be provided by the Permittee to the Kentucky Division of Waste Management.

B. Final

The Permittee shall finalize the Corrective Measure Study Report incorporating comments received from the Kentucky Division of Waste Management on the Draft Corrective Measure Study Report. The report shall become final upon approval by the Director.

C. Public Review and Final Selection of Corrective Measures

Upon receipt of the Final Corrective Measure Study Report, the Kentucky Division of Waste Management shall announce its availability to the public for review and comment. At the end of the comment period, the Director shall

review the comments and then inform the Permittee of the final decision as to the approved Corrective Measures to be implemented.

APPENDIX 10

CORRECTIVE ACTION SCHEDULE OF COMPLIANCE

Permit Condition	Event	Due Date
IV.B.1	Notification of Newly Identified SWMUs and AOCs.	Within fifteen (15) days of discovery.
IV.B.2	Assessment Report.	Within ninety (90) days of notification
IV.C.1	Notification for Newly Discovered Releases at Previously Identified SWMUs and AOCs.	Within fifteen (15) days of discovery.
IV.D.1	Confirmatory Sampling Workplan for SWMUs or AOCs Identified in Appendix A-3.	Within forty-five (45) days of the effective date of this Permit.
IV.D.2	Implementation of Confirmatory Sampling Workplan.	In accordance with the Division's approval letter for the CS Workplan.
IV.D.4	Confirmatory Sampling Report	In accordance with the approved CS Workplan.
IV.A.1	RFI Workplan for SWMU(s) and AOC(s) Identified under Permit Condition IV.A.1.	Within ninety (90) days of the effective date of this Permit.
IV.B.3, IV.C.2, or IV.D.5	RFI Workplan for SWMU(s) and AOC(s)	Within ninety (90) days after receipt of notification by the Division of which SWMUs or AOCs require an RFI.
IV.E.4	Implementation of RFI Workplan.	In accordance with the Division's approval letter for the RFI Workplan.
IV.E.5	Notification of Sampling Activities.	At least twenty (20) days prior to any RFI sampling activity.
IV.E.6	RFI Progress Reports.	Quarterly, beginning ninety (90) days from the start date specified by the Division[1]
IV.E.7	RFI Report.	In accordance with the approved RFI Workplan.
IV.E.7	Revised RFI Report	Within thirty (30) days of receipt of the Division's comments on the RFI Report.
IV.F.1(a)	Interim Measures Workplan.	Within thirty (30) days of notification by the Division.
IV.F.1(c)	Implementation of IM Workplan.	In accordance with the Division's approval letter for the IM Workplan.
IV.F.3(a)	Interim Measures Progress Reports.	In accordance with the approved Interim Measures Workplan.[2]
IV.F.3(b)	Interim Measures Report.	Within ninety (90) days of completion.
IV.G.1(a)	CMS Workplan.	Within ninety (90) days of notification by the Division that a CMS is required.
IV.G.2	Implementation of the CMS Workplan.	Within fifteen (15) days after receipt of the Division's approval of the Workplan.
IV.G.3(a)	CMS Report.	In accordance with the schedule in the approved CMS Workplan.

IV.G.3(a)	Revised CMS Report.	Within thirty (30) days of receipt of the Division's comments on the CMS Report.
IV.H.2	Statement of Basis.	Within thirty (30) days of receipt of the Division's approval letter for the CMS Report.
IV.H.4	Demonstration of Financial Assurance.	Within one hundred twenty (120) days after Permit modification for remedy.
IV.I.1	CMI Workplan.	Within thirty (30) days of the permit modification for remedy selection.
IV.I.2	Operations and Maintenance Plan.	In accordance with the schedule in the approved CMI Workplan.
IV.I.4	Construction Completion Report.	In accordance with the schedule in the approved CMI Workplan.
IV.I.6	CMI Progress Reports.	Semi-annually, beginning one hundred eighty (180) days after approval of the CMI Workplan.
IV.I.7	Remedy Completion Report.	Within ninety (90) days of completion of the selected remedy.
IV.K.3	Amendment of Assessment Report, CS Workplan, or RFI Workplan that no longer satisfies requirements of 401 KAR 34:060 Section 12 or this Permit.	Within ninety (90) days of determination.
The above reports must be signed and certified in accordance with 401 KAR 38:070 Section 7. [1] Applies to workplan execution that requires more than one hundred eighty (180) days. [2] Applies to workplan execution that requires more than one (1) year.		

APPENDIX 11

SITE MANAGEMENT PLAN

APPENDIX 12

SAMPLING AND ANALYSIS PLAN

APPENDIX 13

FINALIZED ENVIRONMENTAL COVENANT